NÃO É APENAS SOBRE NÓS: FOOD AS A MECHANISM TO ADDRESS SOCIAL AND ENVIRONMENTAL INJUSTICES IN MATO GROSSO, BRAZIL

BY

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ABSTRACT

The Landless Workers Movement (MST) is one of the most important social movements in the world for the implementation of agrarian land reform. Their fight for access to land has been based on the premise that land should serve a "social function." Since its birth in the 1980s, the MST has settled more than one million people in Brazil on approximately 35 million acres of land (an area about the size of Paraguay). Many of the settlements across the country have demonstrated a commitment to move beyond social justice by combining environmental justice into their discourses and activities, and pinning their struggle with the fight for food sovereignty. This ethnographic research explored the different ways that environmental discourses activities are being incorporated into the movement by describing the experience of the 12 de Outubro settlement in the state of Mato Grosso. Interviews with members of 12 de Outubro reveal that by implementing alternative agricultural methods like agroecology and agroforestry, they believe they are able to restore and protect the land that they acquire, while working towards food sovereignty. Secondly, they hope to demonstrate that their struggle for access to land is not just for individual benefit, but rather, that by growing healthy food sustainably and by developing a cooperative that benefits the entire community; it is truly fulfilling its "social function." Finally, they believe that their partnership with a local university has connected them to the larger urban community through the establishment of CANTASOL, a solidarity commercialization system, extending awareness about food, the environment, and social justice into the urban sphere.

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DEDICATION

This is for my parents, whose example of hard work and dedication has been a source of strength for me in the most difficult of moments. Thank you for always supporting this daughter of yours that never seems to sit still for too long, I love you eternally.

For my *abuelita* Sahara, you departed some time ago but I am certain your gentle eyes watched over me during every step of this journey.

Finally, this work is also dedicated to the MST and their vision of a more just and fraternal society, *a luta continua!*

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GLOSSARY

acampados	MST members that are occupying an area of land
assentados	MST members that live in an allocated settlement
assentamento	MST settlement
acampamento	MST camp
CANTASOL	community economic solidarity program at 12 de Outubro
CPT	*Comissão Pastoral da Terra* (Pastoral Land Commission)
grilagem	practice of falsifying authenticity of land documents
INCRA	*Instituto Nacional de Colonização e Reforma Agrária* (National Institute for Colonization and Agrarian Reform)
MAB	*Movimento dos Atingidos por Barragems*/ Movement of Peoples Affected by Dams
MST	*Movimento dos Trabalhadores Rurais Sem Terra* (Landless Rural Workers Movement)
UNEMAT	*Universidade Estudual de Mato Grosso*/ State University of Mato Grosso

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Figure 1. Political Map of Brazil. Source: University of Texas, Perry-Castañeda Library Map Collection

CHAPTER 1: INTRODUCTION

> By politicizing market culture, and its material consequences, these struggles reformulate the meaning and content of social change. Those deemed casualties of progress become agents or vehicles of critique of the normalizing claims of development. Their critique is not so much in development's terms (success or failure), but in terms that are infused with the particular values and meanings through which they engage in struggle for rights, access, and representation. (McMichael 4)

This chapter is divided up into three parts. The first part is an introduction to the topic. It primarily describes initial motivations for engaging in this research and first encounters with the issues that this thesis focuses on. The second part of this chapter seeks to provide a socio-political context that will help in understanding the issues that will be presented in this research. It mainly focuses on the issue of land in Brazil, in particular the social and political issues surrounding land tenure. Considering that one of the main foci of this work involves the Landless Workers Movement (MST), this chapter will seek to contextualize the appearance of the MST on the national and global stage. It will also examine growing awareness of social justice and environmental issues in response to the economic, social, and political events that shaped the greater part of the 20th century and the first decade of the 21st century, as well as briefly summarize the current political and economic atmosphere. A final aim of this chapter is to introduce the regional focus of this research. It will provide a brief historical background of the state of Mato Grosso, and describe its importance in relation to agriculture, land issues, and the environment. The last part of this chapter outlines the structure of the rest of the thesis.

RESEARCH MOTIVATIONS

I was first introduced to the MST through the seminal work, *To Inherit the Earth: The Landless Movement and the Struggle for a New Brazil* by Wolford and Wright. Prior to that, I had heard mention of the MST but did not have a good understanding of who they were or what motivated their cause. After reading the book my curiosity was piqued. Their struggle reminded me of the Zapatistas in Mexico, one that I had followed closely since I was a child[1]. I was fascinated with the idea of a group of people taking on the monstrous task of challenging a system, demanding justice, and doing so with such tenacity. Later, when I was gathering information about the death tolls related to land-conflict issues in Latin America for an earlier project, while I scoured through the data compiled by the Pastoral Land Commission in Brazil, the term *"assentado"* kept coming up time and time again in the lists of people that had either been the victims of death threats, suffered violence, or had been killed because of conflicts related to land in Brazil. More and more I found myself intrigued with wanting to understand the framework of this social movement, their motivations, and the dangers that they face in fighting for agrarian reform and social transformation.

As I have learned so many times before, some of the best opportunities happen by chance and research must be approached with an open mind (though careful planning often helps too). From the moment that I arrived in Brazil in late May of 2014, I was determined to gain a better understanding of what the MST was and what were the biggest challenges that it was facing. So, I started by visiting an institution that has accompanied them from the very beginning—the *Comissão Pastoral da Terra* (Pastoral Land Commission). For several weeks I visited one of their main offices in Salvador, Bahia and looked through their literature, interacted with field

[1] I will never forget when my family was crowded around the television watching the Rose Bowl Parade on Univision on that first day of 1994 and the programming was interrupted by the breaking news of the uprising in southern Mexico.

[2] The Terra Legal Amazon is a land regularization program that delivers land titles to squatters occupying federal

agents, and asked all of sorts of questions related to the environment, issues over land, and conflict. Anecdotes about members of the MST came up often, as did conservations about the intensification of land issues in the state of Mato Grosso, considered the "Midwest" of Brazil because of its booming agriculture industry. It was then that I was provided with contact information of other CPT offices in Brazil where I could continue to explore these topics.

Finally, at the end of June I received a response from the CPT office in Cuiabá, Mato Grosso along with an invitation to attend a symposium on Terra Legal Amazônia[2]. Upon my arrival to Cuiabá, the CPT coordinator escorted me to an MST occupation of the INCRA offices. It marked my very first interaction with the MST and some of its members. In the few hours that I spent there, they shared their stories with me, offered me a meal, and helped me find cover under the pouring rain. I was welcomed without reservation. I was humbled by the warmth of this community, their generosity towards this perfect stranger, but most of all, I was inspired by their courage and commitment to their struggle. I initially approached them driven by that curiosity that drives most researchers, but I was very nervous about how I would be received or if they would even want to talk to me at all. That night I had my first conversation with one of my key informants, Josué, a leader from 12 de Outubro, one of the most dynamic *assentamentos* in the state. And as we talked, he told me, "…we want people to look at the MST through a critical lens, not just to put us on a pedestal or throw us dirt, but to see us with a critical eye because we have so many things we still need to keep working on…but in order to know the MST, you have to research it, and to research it, you have to live inside of it." By the end of that evening, I walked away with many new friends, an open invitation to visit their homes in the

[2] The Terra Legal Amazon is a land regularization program that delivers land titles to squatters occupying federal public lands that are not designated as indigenous reserves, public forests, protected areas, marine, or reserved for military administration. The goal of the program is to legalize and promote the creation and the development of sustainable production models in the Amazon. In short, the program aims to regulate legitimate occupations, with priority given to small producers and local communities.

acampamentos and *assentamentos* in the northern part of the state, and the words of Josué playing over and over in my head.

A ten-hour bus ride later that evening got me to Colíder the next day, where the symposium on Terra Legal Amazônia took place. There, I got the opportunity to meet with more MST members, as well as other CPT agents, researchers, activists, and government officials working on land issues around the Amazon in Mato Grosso and the neighboring states of Pará, Rondônia, and Amazonas. Issues surrounding land titling and agriculture in the region were discussed, especially the practice of *grilagem*[3] and the violence that so often has accompanied land issues in Brazil. Conversations of agriculture and the environment kept coming up, both in the formal sessions and at informal lunch or coffee break time conversations. I kept finding myself becoming more and more interested in these connections, learning more about the types of agriculture that people engaged in as well as how they articulated their relationship with the environment. I learned about projects at MST settlements that focused on the connection between both. Before the weekend was over, I agreed to spend an extended period of time in a MST settlement in the central part of the state to explore these connections. That settlement happened to be 12 de Outubro, which had been mentioned to me several times by different individuals at the symposium, and it also so happened to be the very settlement that Josué invited me to visit. After coordinating some logistics, that Monday morning I hopped on a bus towards Sinop where I would meet MST members that would help guide me into the settlement. The rest, as they say, is history.

[3] Illegal possession of land and illegal land titling. The word itself refers to drawing up a title and placing it in a box with crickets so that it can appear aged to help individuals legitimatize their illegal possession of land.

INTRODUCTION TO THE TOPIC

McMichael's quote at the beginning of this chapter addresses many of the key issues that are presented in this thesis. He says that those proposing deep social change are often those who have been "deemed casualties of progress," they become the agents or drivers that not only push forth social change but also redefine what that change will be like. The MST and their struggle for a more just, fraternal society, and popular agrarian land reform are reminiscent of this. In fact, their movement has been driven by marginalized peoples from the very beginning, the so called, "casualties of progress" who decided to organize themselves and demand the opportunity for a better future for themselves and the next generations.

Amongst the changes that are being driven by the MST, is a reconceptualization of the relationship between people and food based on a framework put forth by La Vía Campesina. Beyond just reconnecting people to their food sources, the concept of food sovereignty encourages a relationship with food that takes into consideration the environment. Through their adoption of alternative agricultural methods, the MST is pushing forth this discussion about food sovereignty in a way that aligns with social and environmental justice. The first part of the title of this thesis—*não é apenas sobre nós*—alludes to the latter. Translated, it means, "it's not just about us," which expresses the MST's narrative that the issues faced by marginalized people are not just *their* problem, but that they should be openly discussed and solved by every part of society.

For the past 30 years, the MST have created a platform for landless people to organize themselves and demand the necessary tools to improve the lives of millions of people. They appeared during one of Brazil's most complicated periods in recent history. While the military dictatorship in the 1960s to 1980s oppressed and violated the human rights of many Brazilians,

those who had very little left to lose decided to take justice into their own hands. But this movement did not rise out of nowhere. It sprouted from the ashes of previous unions, as well as peasant and farmer organizations that had existed in Brazil since the beginning of the 20th century. Most importantly, it also stemmed from the deep-seeded frustrations of the landless poor. The issues that the landless have brought forth are rooted in Brazil's history of land inequality, and the failures of the state to address inequality in the country. The ideological roots of the movement draws from the revolutions that demanded social justice and agrarian reform in other parts in Latin America earlier in the 20th century, specifically the Mexican and Cuban Revolutions, as well as the social movements that emerged in neighboring countries like Peru in the 1960s[4].

The MST also appeared during a time of increased awareness over the vulnerability of the environment in the face of development projects supported by the state. Precisely when the eyes of the world began to turn to the Amazon and the massive amount of deforestation that was taking place, the MST were presenting their struggle for access to land on which the landless poor could eek a living. This was a cause of tension and quickly the landless learned to strategize so as to not to pose a challenge to conservationists, but instead appeal to the connections between environmental degradation and poverty. Today, they present an alternative framework to solve what they believe have been the most compromising circumstances caused by capitalist and neoliberal development approaches. As previously mentioned, food sovereignty has become one of these core drivers of the MST's demand for popular agrarian reform. In fighting for food sovereignty they see a possibility to transform a system that has previously benefited the rich the most, by increasing the access of the poor to foods that are healthy and sustainably grown. Where do all of these issues stand in contemporary Brazilian society? How do discussions about

[4] Land invasions occurred in Peru during the 1950s and 60s, mostly by migrant workers (Stokes 24).

the environment, land, and inequality fit into Brazilian society? How have these issues evolved over time? What is the place of the MST? The following section will attempt to discuss this in-depth.

SOCIO-POLITICAL CONTEXT

Brief Contemporary History of Brazil

1850: *Lei das terras*, new land law makes it challenging for small farmers to obtain land.

1888: Slavery is abolished.

1891: New constitution is established, states now have the ability to write their own land laws.

1912-1915: Revolt in Rio Grande do Sul; farmers, peasants and rural poor protest for land.

1930: Revolt brings Getúlio Vargas to power.

1933: Import Substitution (ISI) becomes implemented as the new economic model.

1937: Estado Novo authoritarian regime becomes established.

1955: First *Liga Camponesa* (Peasant League), or farmer organizations that worked towards improving the lives of rural workers, arises in Pernambuco.

1961: Brasília becomes the new national capital, and its design and infrastructure become the symbol for the country's modernization.

1962: Rural labor unions are legalized.

1963: The Rural Workers Statute is signed, requiring that a 1% tax be paid on commercial agricultural products to be allocated for social services for rural workers.

1964: Military regime comes into power. The ISI model is substituted with a market-oriented strategy.

1968-1974: Dirty War and "*Milagre Brasileiro*" (Brazilian Miracle)—period of economic growth.

1970: INCRA (National Institute for Colonization and Agrarian Reform) is formed to resolve issues related to land tenure.

1975: The *Comissão Pastoral da Terra* (Pastoral Commission on Lands) is established in response to growing land conflicts.

1978-1979: The first land occupations take place, eventually leads to the birth of the *Movimento dos Trabalhadores Rurais Sem-Terra* (Landless Workers Movement).

1980: Partido dos Trabalhadores (Workers Party) is founded.

1984: The MST officially becomes a national movement.

1985: Military dictatorship ends and civilian rule is reestablished, the *Cruzado* Plan is launched to reduce inflation. The first National MST Congress takes places in Curitiba. José Sarney becomes president.

1988: New constitution is introduced after the end of the military dictatorship; stipulates that land must serve a "social function" and removes literacy qualification for voting. The union organizer and rubber-tapper, Chico Mendes, is assassinated.

1990: Fernando Collor becomes president. Brazil signs the Treaty of Asunción, forming MERCOSUR, opening up its economy, and committing to a regional integration model. The second National MST Congress takes place in Brasília.

1994: *Plano Real* (Real Plan) is launched to stabilize the currency, introduces new currency.

1995: Fernando Henrique Cardoso[5] takes office, first president to start programs to address inequality issues in the country. Brazil becomes a WTO member. The third National MST Congress takes place in Brasília.

2000: The fourth MST National Congress takes place in Brasília.

2002: Luiz Inácio "Lula" da Silva, from the *Partido de Trabalhadores*, becomes the first working-class president elected into office.

2007: The fifth National MST Congress takes place in Brasília.

2010: Dilma Roussef, the PT candidate, is elected president.

2014: The sixth MST National Congress takes place in Brasília. Roussef is reelected into office.

Land and Inequality

Over the past century the landless poor have been questioning the amount of land belonging to very few in an ever more resounding way, placing themselves at the center of the land debate. In order to understand the intersection between land and inequality, it is important to consider the following phenomena: land granting, land grabbing, the role of agriculture, and the organization of the landless poor.

Brazil has a total land area of 8,514,877 square kilometers (about 50% of South America's total land mass), of which 8.5% is arable. However, it is one of the countries with one of the most concentrated landholding systems in the world. According to the World Bank's GINI Index, Brazil ranks amongst the highest in the world for land inequality (World Bank). Beyond the demand for land in the country, there are significant issues regarding the accountability and

[5] Cardoso's administration becomes known not only for its social programs, but also for deepening privatization and increasing public debt.

documentation of legal land ownership. One of the main issues is the discrepancy in land titles[6] and navigating the various state entities that are in charge of legalizing and documenting land (INCRA and Legal Amazon).

In the fifth largest country in the world, the issue of access to land has always been heated, especially amongst rural workers, peasants, and the oligarchy. Perhaps in no other space has the gap between the rich and poor manifested itself in a more pronounced way. In their analysis of agrarian structure and land ownership in Brazil, Saure and Pereira (2011) analyze data on the number and area of agricultural and livestock estates in Brazil. Their study shows a very uneven distribution of land ownership, where less than 1% of the total estates occupied about 44% of the total land area. Furthermore, the largest number of total estates (some 48% that are less then 10 hectares) only occupy about 2% of the total area. They observe that:

> …data on [land] concentration have another important dimension, namely the historical demand for land in Brazil by segments that, in spite of having centered their expectations of life, production, consumption and attainment of citizenship in the rural environment, have still been excluded from access to them—an access that would have favored a more equitable distribution of the rural estates, along with the processes of social justice and land democratization. (5)

Land granting and slavery

Land inequality in Brazil is deeply rooted in its colonial past, when land was granted to individuals by the Portuguese crown based on favoritism. Individuals acquired vast tracts of land, establishing *latifundios* or large estates, some of which were never put into use. Furthermore, as described by Saure and Pereira (2011), the *Lei das terras* or Land Act of 1850 made it even more difficult for the rural poor to have access to land:

[6] The discrepancies regarding land titles is best exemplified by the study by Wilkinson et al. (2010 where they reveal that 100 of the 178 million hectares of the Legal Amazon land were registered with fraudulent documents. The other 30% or 42 million acres are considered legally uncertain or can be disputed (15).

> …the Land Act of 1850 had the goal of preventing the occupation of free lands, thus restricting access to purchase, which excluded the mass of poor individuals and the African slaves who had been freed after owning lands. The historical land concentration is associated to other important (and complementary) characteristics of the Brazilian countryside, such as, for instance, the total lack of taxation on the land, the illegal private encroachment on public lands (vacant lands and secured lands), and the absence of official data on the real situation of the rural estates of the country. (3)

After the period of colonization and the transition to a republic, *fazendeiros* (large land-owners) emerged as the powerful class. This was a group that had a deeply ingrained slaveholding tradition and commonly oversaw large plantations. In his review of Brazilian history, MacLachlan discusses the importance of analyzing the slaveholding traditions of landowners in order to understand the plight of landless peasants. He identifies three primary groups of *fazendeiros* that varied in their approach and values—"paternalistic," "hard-core slaveholders," and "progressive planters" (MacLachlan 28). After slavery was abolished in 1888, many of the negative aspects of plantation systems still carried over, he points out that for the "paternalistic" *fazendeiros*:

> … the patriarchal, paternalistic, and social aspects of the slave system, not just economics, made life worthwhile. In decline, slaveholders created a community with themselves at the center. They served as a bridge group between the enforced poverty of slavery and that of marginal free labor. They relied on slaves but also on free labor willing to work alongside slaves at low wages—in effect, slavery and its quasi-equivalent. (28)

"Hard-core slave holders" on the other hand, saw slaves as the only viable option, while the "progressive planters" differed in that they had a mostly urban mindset. That is to say, even

though they depended a great deal on slave labor, they also focused their efforts in investing in machinery in order to makes their businesses more profitable—theirs was a framework based on economics. MacLachlan's discussion points to the relationships between the profitability of large landholdings and marginal labor and reveals the very basic slave-holding characteristics that carried on long after slavery ended in Brazil. These same characteristics would be endured by the country's landless poor in years to come.

Land grabbing and governmental agendas

At the turn of the 20th century Brazil felt the pressure to modernize and it required a large, cheap labor force in order to do that. By this time, peasants had already been revolting—demanding fair wages, better working conditions, and access to land. From 1912-1915 farmers, peasants, and rural poor revolted in Rio Grande do Sul protesting for access to land. The state was caught between the desire to modernize and their objectives to connect the country, and meeting the demands of the landless poor. Ultimately, it was modernization projects, not agrarian reform that influenced the approaches that different administrations adopted in regards to addressing land distribution and inequality. Underlying all of this was the understanding that giving land to the poor would reduce the cheap labor force that the country so desperately needed in order to move forward with its modernization projects.

Though he was dubbed the "father of the poor," the governments of Getúlio Vargas[7] (1930-1945, 1951-1954) did very little to address land inequality. In fact, he promoted large-scale ventures like cattle ranching, lumber operations and mining, including in the fragile Amazon basin (MacLachlan 148). Amongst the regime's leaders, land reform did not have many proponents because it was a matter of social justice, and calls for social justice were equated with

[7] Vargas expanded social programs, granted suffrage for women, and legalized labor unions.

communism and stomped out with brute force (MacLachlan 149). This was not to be the last time violence would be used against the populace to suppress calls for agrarian reform (Branford and Rocha 5).

In the 1960s, the state announced its intention to colonize the Brazilian frontier lands[8], primarily in the states of Mato Grosso and Pará. Motivated by the promise of land, thousands of people would answer the call through a series of private and public settlement projects over the next 20 years. The regime's strategy was to encourage land settlement and to stimulate industrial development. Tax incentives were offered to individuals and large companies, including multinationals. As industrialization increased, so did the need to provide the necessary amount of food to sustain the growing urban labor force. Attention was turned to the amount of large unproductive estates that far from helping the state meet its development goals, were seriously hindering them (Branford and Rocha 4). It seemed as though the time was ripe to finally begin addressing the issue of agrarian reform. So much so, that in 1962 João Goulart, a center-left president, began to discuss the possibility of breaking up some of the large estates in order to distribute them to the landless poor.

Several issues arose as a result of the push to colonize the interior. First, the government's objective was primarily to promote the settlement of the interior, not to solve social inequalities. Secondly, though many people participated in the settlement projects, land grabbing and the exploitation of natural resources (minerals, timber, etc.) also ensued. Individuals and *fazendeiros* took advantage of the settlement plans to stake claims to lands that they were not originally given. It is very likely that the practice of *grilagem* was born during this period of time. But perhaps the biggest issue that arose was the transformation of agriculture

[8] The colonization of the Brazilian frontier lands was done partly as an effort to wipe out any remnants of the rural guerrilla groups that had formed and been executed by the military's counter-insurgency operations in the Amazon basin near the Araguaia river in the 1960s.

into "farm factories" (MacLachlan 140). Agriculture became an important sector in Brazil's economy—coffee, sugar, soybean, cocoa, citrus, and beef production reinforced the creation of extremely profitable, highly mechanized land-holdings. Essentially, this incorporated agriculture into the national development agenda, modeled after the countries of the developed world. Eventually, large-scale agricultural enterprises were favored over the needs of landless peasants to the point that thinking about breaking up large landholdings, like João Goulart had once considered, was cast as a backward idea (MacLachlan 149). There was just too much of a good market for the agricultural products like soybeans, orange juice concentrate, and meat that were being produced in the large enterprises, and the country depended in large part on the growth of this sector to push forth with its other development goals. Therefore, it seemed that the only hope for improving the lives of the landless peasants was to eventually get absorbed into the modern economy as rural workers.

In 1970, the formation of the *Instituto Nacional de Colonização e Reforma Agrária* (National Institute of Colonization and Agrarian Reform or INCRA) promised the resettlement of at least 100,000 families (MacLachlan 152). This federal entity had the largest land jurisdiction in the region—it was the largest landowner and it was responsible for land titling. It was also assigned the responsibility of overseeing the colonization of the Amazon during the 1970s[9] (de Almeida 33). The primary colonization destinations were Mato Gosso, Rondônia, Acre, Pará, Roraima, Amazonas, Amapá, and Maranhão. The families that were resettled were established in the Amazon where they faced many hardships because of the hostility of the environment. They had been driven there by need, "In a desperate search for a better life, immigrants followed the roads to their dreams only to find that any agricultural or forest

[9] The military dictatorship attempted to resolve conflicts over land by encouraging the landless poor in other parts of the country to settle in the Amazon (de Almeida 1).

products they harvested had to be marketed at low prices because of high transportation costs" (MacLachlan 153). For the settlers, life in the Amazon was proving to be very harsh, and they had little opportunity to make a living. These small farmers found that the Amazonian soils were proving to be unsuitable for agriculture and the technologies that they were utilizing were not appropriate for those conditions. De Almeida points out that "…inadequate use of mechanization and of technologies that are appropriate for other regions of Brazil are detrimental to the tropical environment and speed up soil degradation after deforestation" (44). The modern technologies used by these farmers were in fact reducing the agricultural productivity of their plots of land. But the farmers were not provided with any of this information, just encouraged by the government to settle the land as quickly as possible and start producing without a real understanding of the quality of the soils:

> At the end of the 1970s, the most complete source of information on Amazon soils was the RADAMBRASIL survey, which used remote sensing and photo-interpretation techniques. Information regarding the area covered by RADAM is not very precise, however, and a good part of the Amazon was still unknown ten years after large-scale settlement had begun. The Amazon was thus occupied without any knowledge of its agricultural capacity. In fact, the mapping of much of the region in any detail began only *after* the roads had been built! Major projects and plans were initiated with no idea of soil quality. (de Almeida 45)

Thus, the government encouraged the settlement of the area by many different means without first assessing the depth of the challenges that the settlers could face, including the most important, how they would grow the food that would sustain them. Contributing to the hardships of the farmers was the lack of any real orientation, especially technical orientation for the settlers as part of the Amazon colonization program policies (de Almeida 58). This left the settlers vulnerable, making life economically unviable and compromising the whole enterprise of the colonization projects. In the end, some even chose to abandon the lands that they had settled.

This benefited industries, especially large companies because they could take advantage of the cleared land and profit from it—sometimes they even ended up renting out land back to the people who had sold it to them. Eventually this turned these industrialists into powerful landowners, further concentrating landholding in the country (Branford and Rocha 6). The stage was set for the transition of the "Amazon frontier" into an agricultural frontier, an important development "not merely because of the large number of people involved, but because of what it represented to Brazilian society as a whole. It was a broad process of regional, economic, and political transformation…" (de Almeida 29). But the country's landless poor would not just sit back and watch all of this unfold quietly, they would organize and rise a united front to demand basic rights and access to land.

Organization of the landless

The 1950s saw the emergence of rural labor unions or *ligas camponesas*. These were groups of small farmers, rural laborers, and agriculturists that organized themselves to demand better working conditions, fair labor, and to challenge the changes brought on by the commercialization of agriculture. As MacLachlan points out, the new commercialized system no longer aligned with the old arrangements where rural laborers had access to small farm plots (150). The commercialization of agriculture was altering the relationship between landowners and peasants in a foundational way because it shifted the roles of each actor. Landowners became employers and peasants became workers (MacLachlan 150). Landowners were no longer willing to spare plots of land to their workers. In some ways, those plots of land had been a type of social protection that landowners had previously granted the peasants. One measure that attempted to address the alteration in this previous arrangement was the 1963 Rural Worker

Statute. It required that a 1% tax be paid on commercial agricultural products which was then to be allocated towards social services for rural workers. This policy granted them basic rights such as minimum wage, paid leave, and formal work contracts. But beyond the services and rights granted to the workers, the Rural Worker Statute intended to pave the way for the passing of a land statute and a subsequent constitutional amendment that would finally open the door to agrarian reform (Garcia and Palmeira 38). The latter did not take place, at least not right away, but nonetheless, it did mark an important achievement for rural landless workers because it became the first of several programs that worked to address the issues that they faced. However, because these programs were not properly enforced or supported by the government and its appointed officials, other types of rural unions began to emerge as a response to the gaps, and protests ensued once again.

The organization of peasants in Brazil was just another example of people manifesting their discontent over their inability to access land. This was not a new struggle in the hemisphere. This had already happened in other parts of Latin America during the 20th century—rural peasants had placed themselves at the center of land debates and struggles. Rural peasants in Brazil were particularly motivated by the examples from the Mexican Revolution and the Cuban Revolution, and their subsequent agrarian reforms (Wolford and Wright 283). Another key influence for the landless poor came by way of the church. Peasants began paying close attention to the new interpretations of the bible promoted by a radical sector within the Catholic Church—liberation theologians[10]. In Brazil, these priests promoted social justice through the gospel. They found protection under the formation of Christian Ecclesiastical Base Communities or CEBs[11],

[10] Liberation theology is described as the Marxist interpretations of the bible, in which, social justice takes the center stage (Wolford and Wright 8).

[11] Christian-based communities led by priests and lay catechists. These communities primarily focused the spiritual and physical well-being, education, and social issues (Adriance 89).

and later with the formation of the *Comissão Pastoral da Terra* (CPT or Pastoral Land Commission). It was the injustice and violence associated with land that initially led these ecclesiastical workers to align with the landless poor. Since its formation in 1975, the CPT has worked alongside rural workers and peasants to report and help resolve land related conflicts. In doing so, not only have they become important players for the fight for social justice, but also important proponents of the agrarian reform. Initially the organization worked right alongside the workers, but eventually their role transformed from that of organizers to supporters of the struggles of the landless poor.

The promise for agrarian land reform would not come easily and at times, the price has been quite high. Almost from the first signs of the organizing of the landless poor, the state allied itself with landowners to suppress protests over land. The use of violence was permitted, sometimes even encouraged to "maintain order" (Branford and Rocha 6). As has been documented by the CPT's extensive records on land conflict, in their struggle, landless workers have been the victims of threats, oppression, and even murder from large landowners and their hired gunmen. In 2014 alone, of the 26 land-related murders, 21 were classified as *assentados* and *sem-terra* (*Conflitos no Campo Brasil: 2014* 126).

Social Justice and the Appearance of the MST

Undoubtedly, the CPT played an important role in laying the groundwork for exposing social justice issues in Brazil and accompanying the rise of what would become one of the most important social movements in the world. The MST was born in the southern Brazilian state of Rio Grande do Sul, and it quickly became the most powerful movement in the fight against land inequality and social injustice. By 1978, the conditions were ripe for the movement to rise up.

The discussions about land ownership, especially in terms of deciphering legal versus illegal land occupation, had been going on for some time now and the CPT and its lay workers were deeply involved in dealing with these land issues. One of the biggest issues was in the definitions of land laws, which were often ambiguous and subject to manipulation. How could there be any justice when that very ambiguity was responsible for fueling the violence that perpetuated land concentration? The CPT continued to work closely with the landless poor. They helped them organize, educated them about their rights, but most importantly, included them in the conversations about how to best approach the land conflict and the agrarian reform. After much debate, many agreed that seeking strength in numbers was probably one of the best tactics (Wright & Wolford 25). This path to gaining access to land would be twofold. First they needed to be heard in numbers large enough to cause an impression, which would ultimately pressure political action. They understood that if, "the poor could occupy land in sufficient numbers to make their removal a difficult political issue, then perhaps they could turn the tables on Brazil's landowners and the flexible legal tradition the landowners had always used in their own favor" (Wright & Wolford 26). Thus, the tactic became to occupy lands of interest in order to pressure the government to distribute lands that were no longer in use to the landless poor.

The first occupation by landless workers occurred in a forest reserve. This caused alarm for two reasons, first because of growing concerns over environmental conservation and secondly, because it challenged the state to find a solution. Though it was not well organized and did not count on the support of the CPT clerics, it did spark the beginning of the movement and more importantly, it demonstrated the effectiveness of land occupation as a means to pressure the government in redistributing lands. Then an organized occupation took place in Rio Grande do Sul. A group of landless that had been evicted from an indigenous reserve took the advice of

clerics[12] and a state worker[13] to try to conquer the distribution of unregistered lands. In September of 1979, 110 families organized and occupied a large estate[14] in the northern part of the state. This occupation effectively garnered the attention of the military regime, and drew national and international attention. Soon, the government realized that they would not be able to resort to their tactics of brute force in order to push the families out. After an unsuccessful campaign of attrition, the military regime eventually had to concede in 1980. Believing that this would end the issue, they informed the families that they could stay on the land. The military regime was seriously mistaken because the exact opposite occurred. The victory lit the fire for other landless families to join the fight and soon, more land occupations took place in Rio Grande do Sul. By 1981, hundreds of families had occupied the neighboring estate and though the government tried to persuade[15] them to go settle in one of the projects in Mato Grosso instead, they resisted. This occupation came to be known as "Encruzilhada Natalino," and the location, as well as the victory there, has lived on to become one of the most important symbols for the landless struggle. Over the next three years, despite attacks from the press and the regime, the landless families would organize and hold mass meetings with the help of the CPT.

Finally, in January of 1984, a group of landless workers formally launched the MST, and later consolidated the movement at historic meetings in Cascavel by the end of that month. As the parameters of the movement were being debated, landless leaders and the CPT clerics

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[12] Padre Arnildo was a priest that acccompanied the landless from the beginning, brainstorming with them tactics to push forth their struggle.

[13] João Pedro Stédile was a state worker that played in an instrumental role in helping the landless identify location for land occupations.

[14] That estate had been part of the original Sarandí estate which was expropriated by the state governor in 1962. It was eventually divided and leased to private landowners after the 1964 coup. The lease for the estate that was occupied, Macali, had expired which meant that it could theoretically be allocated to the landless families (Branford and Rocha 10).

[15] The military regime threatened the families, used violence, burned down the huts, attacked the CPT clerics and accused them of communists, and even sent the military to prevent supporters from entering or leaving the camp. When news broke out of these events it unleashed a wave of accusations of human rights violations against the military regime. For more, refer to Branford and Rocha 18.

decided that the movement should be autonomous to increase its possibility of being successful. Though the clerics would still support the movement when needed, it would no longer fall under any umbrella—not the church, or even political parties and trade unions. Most importantly, they recognized the importance of including the whole family—women, men, and children alike would be welcomed and empowered through the movement. From these meetings the main objectives of the movement were established: fighting for land, fighting for land reform, and striving for a more just and fraternal society (MST).

Unlike the land squatters in the Amazon and the 1950s *ligas camponesas*, from the beginning the MST established that they were not just fighting for land occupation or rights for rural workers, but that they were "part of a broader revolutionary movement to end exploitation and to create a more just society for everyone" (Branford and Rocha 24). It was under this motto that the MST would mark its place in history during one of Brazil's most conflicted political and social periods. Immediately it began to build a strong leadership base educated in Marxist sociology and liberation theology. Ondetti (2008) says:

> Political indoctrination and training of potential activists began informally in the MST's camps and settlements, but promising individuals were generally invited to participate in formal training programs at the state, regional, and national levels. The most advanced program was held at the MST's permanent National School in Santa Catarina and obligated most students to leave their homes for several months at a time. The National School brought in activists from all over Brazil and graduating from it became a source of considerable prestige and upward mobility within the MST…Participants were taught in elementary Marxist sociology, in classrooms adorned with images of Marx, Lenin, and Mao. A great deal of emphasis was placed on the need for activists to read and study, based on the idea that this would make them less vulnerable to manipulations and cooptation by elites and the state. (120)

Like Ondetti observes, a signification part of the ideology of the MST draws from Marx, Lenin, and Mao. At the national MST schools, students are instructed in these teachings, with particular emphasis placed on leadership development, and fueling their commitment to the MST

(Ondetti 120). The pedagogic approach that they use is modeled after Paulo Freire (1970; 1985), the Brazilian educator that challenged traditional education structures that contributed to reinforcing the power of the elite, but did little to empower the poor. He argued for a more humanistic approach to education that encourages students to move beyond a passive role to a more active role in the classroom. Most importantly, he emphasized the power of education as an important tool by which peoples could break free from oppressive social conditions (Friere, 1970; 45). It is precisely the latter that the MST identify with in his work, and which has facilitated their adoption of his teachings to advance the education of all of those involved in their struggle. Freire's conceptualization of people gaining freedom by becoming "Subjects" that participate in historical processes is reflected in the MST's objectives and narratives, in which they clearly state the importance of the marginalized poor to become important drivers for social change in Brazil (MST).

Environmental Awareness

As previously discussed, the government projects that encouraged the settlement of the Amazon did so without truly considering the wellbeing of the settlers and the environment that was to support them. Consequently, significant portions of the Amazon were deforested and extractive industries emerged with little, if any, regulation. Concerns over environmental degradation and its repercussions began to emerge in the later half of the 20th century, awakening an awareness of the environmental issues in Brazil, as well as encouraging discussions of one of the world's most interesting biomes that lies within its borders.

The 1970s saw the birth of the environmental movement in Brazil. It would begin by an increasing awareness of the importance of the Amazon Basin in the continent, and later extend to

consider the social aspects of environmental degradation. During the last century the Amazon has been the focus of much attention, especially from the international conservation community because it is home to 30% of the world's last remaining tropical rainforests. The eyes of the world are watching as deforestation continues (though decreased rates as compared to the middle of the previous century, for example) while conservationists and environmentalists desperately try to save as much rainforest as possible from the destruction of mining, logging, intensive agriculture, and mining. Meanwhile, biologists make new discoveries every year that continue to show us the importance of saving such an incredibly biodiverse part of the world, classified within the scientific community as an important "biological hot spot."

In the last fifty years, the Amazon Basin has also often been referred to as "the lungs of the world" because of how the densely forested areas it possesses benefit the entire globe (i.e. carbon sequestration and oxygen production). In a recent study, Nobre (2014) claims that there is enough evidence to suggest that the Amazon has already started to fail in its function as climate regulator for the South American continent. In his assessment, Nobre considers scientific field measurements and current climate modeling to make his claims. According to him, deforestation and degradation are affecting the Amazon's ability to maintain a fully functioning biotic pump, and the most glaring evidence comes from the recent droughts that are increasing in severity and occurrence (28).

As we begin to feel the effects of global climate change, and understand the important role that forested areas play in mitigating the effects of these phenomena, the tension has been building and often escalating into violence. Though the Amazon covers areas of Bolivia, Peru, Colombia, Ecuador, Guyana, French Guiana, Suriname and Venezuela, Brazil has been in particular focus because the majority of the Amazon is located within its national boundaries,

some 70% (Lele). Aside from its environmental importance, the Brazilian Amazon has also received much attention because it has historically been an area with high indices of violent conflict over land issues. Given the importance of the Brazilian Amazon, it is not surprising that the country would become a hotbed for conservation and development debates.

A host of international conservation organizations flocked to the region and national organizations sprung up as well to promote biodiversity conservation. Many studies attribute the rise and influence of conservation NGOs in Brazil to the transition to a democratic government after the fall of the military regime (Mittmeier et al.). Two major generations of NGOs can be identified as playing an integral role in spreading environmental awareness in Brazil. The first generation[16] was responsible for establishing the atmosphere for collaboration with the government and increasing scientific research, and the second generation[17] made significant contributions towards developing even stronger "scientific, analytical, and political capacity" so as to stimulate conservation (Mittmeier et al. 604). NGOs began to build important partnerships with both governmental and international institutions, and they created the networks that permitted them to expand the scope of their influence, thus providing them the ability to obtain research funding and effectively lobby for policy making. As a result, today there are an estimated 500 conservation NGOs operating in Brazil.

Conservation NGOs in Brazil have also been involved in the development of forested areas and in executing established conservation goals in the country. More emphasis was placed on understanding the natural and anthropogenic causes of stress to forests (such as changes in biodiversity and deforestation), and how forests are being utilized and managed (Lele et al.).

[16] Fundação Brasileira para a Conservação da Natureza (FBCN), World Wildlife Fund (WWF), SOS Mata Atlântica, Funatura, Sociedade de Pesquisa em Vida Salvagem e Educação Ambiental, SOS Amazônia, Fundação Biodiversitas.

[17] Instituto de Pesquisas Ecológicas, Instituto Socioambiental, Instituto do Homem o Meio Ambiente da Amazônia, Fundação Vitoria Amazônica, Instituto de Pesquisa Ambiental da Amazônia.

Grassroots leader, academic, state, and private institutions began to work together to examine the state of Brazil's forest cover, the impacts of policy reform, as well as the involvement of the World Bank and other international conservation entities.

As a movement itself, *socioambientalismo* or socioenvironmentalism was born in the 1970s and 1980s as a response to authoritarian regimes and their development models that had caused massive deforestation and environmental destruction (Hecht 111). It was originally associated with the Brazilian political movements that worked with forest-based or silvo-agrarian populations. At the core of *socioambientalismo* were two things, first a challenge to the previous "all or nothing" model of either complete preservation or complete destruction of the environment, and secondly, an understanding that poverty and environmental degradation were part of the same causal story. Hecht (2014) describes *socioambientalismo* as "the possibility of positive interactions between peoples and the environment based on historical settlement, local knowledge, and modern sciences (111). Tesh (2000) points out that in this scenario, environmentalists act as "creators and promoters" of principles that change how people understand nature, thus creating a base that could then be used to promote social change. Thus, environmentalism became linked to science and democracy. These environmentalists began to propose co-management and protected areas with multiple-use zones as an approach to incorporate public interests in environmental decision-making (Moreno-Sánchez and Maldonado 2008).

Among the country's most celebrated environmentalists was Francisco Alves Mendes Filho, also known as Chico Mendes, whose death as a result of his activism has left a significant legacy. He focused his efforts on protecting the rainforest to ensure the livelihood of rubber tappers. Within a short period of time, he was recognized as an accomplished ecologist, activist

and union leader—even receiving awards from international entities applauding his work in the Amazon. He called for the establishment of extractive reserves that would combine the protection of the rainforest with the possibility for people to continue earning a livelihood. His death at the hands of landowners in December of 1988[18] caused outrage in the conservation community around the world. Above all, it shed light on the pervasiveness of violence in connection to land disputes in the Amazon. The legacy of Chico Mendes is of particular interest to this study because he was one of the first environmentalists who brought the needs of workers (to provide for their families) and considerations to the environment in the same dialogue. Very much like the MST are doing today, in their discussions about the importance of engaging in alternative agriculture in order to protect the very environment that they depend on for their livelihoods—it is a discussion based on social and environmental justice.

The birth of the *socioambientalismo* movement is also believed to have roots in the *Movimento de Arte e Pensamento Ecológico* (Art and Ecological Thinking Movement), an urban movement from São Paulo in the 1970s (MacLachlan). In this space, Brazilian environmentalists published a series of manifestos and literature that reached a wide audience, expanded the environmental debate, and resulted in the broadening of research, boosting eco-tourism, and promoting sustainable development.

Today, environmental politics in Brazil are constantly being challenged by the demands to meet the energy needs of a growing population, the constant expansion of urbanization, and development plans. This makes it incredibly difficult for the Brazilian government to prioritize the environment. Furthermore, despite decades of environmental and human rights activism, lawlessness and violence over environmental and land disputes are still prevalent in the country.

[18] The two men that killed Chico Mendes were Darly Alves da Silvia and his son Darci. A short period after the murder, they were caught, escaped from an Acre prison, and later recaptured (Revkin xvii). Prior to the murder, the Alveses had threatened Chico many times.

However, increased awareness over the importance of protecting the environment and proposals of how to engage in a more sustainable relationship with the environment are coming from marginalized peoples, the current drivers of deep social change in the country.

Current Economic and Political Atmosphere

The political and economic climate in Brazil is very different today than it was at the time of Chico's death or when the MST first appeared. In many ways, the appearance of such a strong social movement came in response to decades of oppression from an authoritative regime, but especially, from the state's support of mechanized agriculture that was displacing more and more rural workers, making it more difficult for them to have access to their own lands on which to sustain their families. At the time of Chico's death in 1988, the country was bogged down by a flailing economy, the "economic miracle" that had marked the previous decade had come to a screeching halt, there was discontent amongst the Brazilian working class. Earlier that decade, a new party had formed that had been steadily gaining momentum with the support of the working class. Today, that party has become an important political force in the country. Brazil's current leadership falls under Dilma Roussef and the *Partido dos Trabalhadores* (Worker's Party). The PT is a leftist party that operates within a socialist-democratic framework. At its inception, it heavily criticized other social-democratic governments, claiming that their models did not do enough to combat imperialist capitalism. The party was founded in 1980, "in response to the need to promote changes in the lives of city and rural laborers, leftist militants, intellectuals, and artists,"[19] and it received official recognition in 1982. Its founder was union leader Luiz Inácio "Lula" da Silva. Lula later went on to serve as president from 2002-2010; his victory in the 2001 elections secured the first presidential victory for the party.

[19] Statement from PT website. http://www.pt.org.br/institucional/#

Dilma Roussef is the second PT politician to be elected into presidential office. If Lula personified that change had arrived in the Brazilian political sphere with renewed commitment to leftist policies, Roussef is the embodiment of the power of the country's commitment to "never again" become vulnerable to the terror and repression of a military regime. A former guerilla who had been imprisoned and tortured during the military dictatorship, she represents a dark period of time in recent Brazilian history, but at the same time she represents the power of change. Today, she is the commander in chief of the very system that had attempted to extinguish her and many others like her. She is the symbol of a successful victory of the left over the repression of the extreme right.

The beginning of Roussef's first term was marked with a commitment to continue the work that her predecessor had started, namely to alleviate and eradicate poverty. In October of 2014, Roussef was narrowly reelected for a second term. Riding on the success of the PT of significantly reducing poverty during the last 12 years, Roussef expressed that her commitment to social development would be seen through more positive changes in her next administration. According to Roussef's administration, progress is to come in the way of expanding and modifying economic and social policies.

In 2007, Lula's administration launched the *Programa de Aceleração do Crescimento* (Growth Acceleration Program), which replaced the previous *Avança Brasil*[20] (Advance Brazil) infrastructure program instituted under the Cardoso administration. PAC was a set of economic policies and investment projects that aimed to accelerate economic growth in Brazil. PAC had a budget of $503.9 billion reias (approx. $250 billion dollars). After assuming office in 2010, the administration of Dilma Rousseff has continued the program as PAC-2. Major points include

[20] A development approach that aimed to integrate growth of all of the country's regions, focusing on heightening competitiveness, raising living standards, decentralizing decision-making, and conserving the environment. In short, growth with reduction of poverty, opening of markets, and further modernization.

investment in state enterprises and investments in the private sector (construction, sanitation, energy, transport, and logistics).

Another important piece of Lula's administration was the *Bolsa Família* program. The *Bolsa Família*[21] program is a social welfare program that provides financial assistance to impoverished families and is operated by the Ministry of Social Development (*Ministério do Desenvolvimento Social e Combate à Fome*). It became one of the centerpieces of Lula's presidency and a key component of his social policy. It operates on the idea of Conditional Cash Transfer[22] (CCT). It has helped lift millions of Brazilians out of poverty. The Food and Agriculture Organization of the United Nations (FAO) addressed this in *The State of Food Insecurity in the World 2014*, estimating that under Roussef's first term alone, about 22 million people were lifted out of poverty. The same report identified *Bolsa Família* as a key factor in allowing Brazil to move off of the UN's World Hunger Map. However, the program is heavily criticized in Brazil, particularly by the middle class and the rich—reflecting a divide on perceptions of how to address inequality and access to progress. Some argue that this type of aid only temporarily addresses social inequality, but that it doesn't do much in the way of providing permanent solutions because it works like a bandage. The Brazilians that oppose it view it as an enabling policy, they argue that it creates dependency amongst the poor and provides little incentive for them to change their circumstances, though Roussef's administration and Lula claim that such arguments have no basis[23].

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[21] Merged the previous social programs implemented by Cardoso's administration—*Bolsa Escola, Auxílio Gás*, *Bolsa Alimentação*, and *Cartão Alimentação*. By merging the other programs, it resolved bureaucratic issues, eliminating intermediaries and allowing more direct relationship between government and its constituents.

[22] Aimed at reducing poverty, CCT programmes are an anti-poverty strategy that give stipends and food to the poor if they meet certain conditions. Often these conditions include, child attendance to school, and vaccinations. Even with their shortcomings, CCTs provide stable income, alleviate poverty, and improve income distribution. For more, see: "Give the Poor Money." *The Economist*. 29 July 2010. Web. http://www.economist.com/node/16693323

[23] For a complete list of "myths" associated to the Bolsa Família program see Instituto Lula's "Bolsa Família: Dezfazendo mitos sobre o programa." http://brasildamudanca.com.br/bolsafamilia/mitos/.

Rouseff's *Plano Brasil Maior* (Bigger Brazil Plan) was developed to protect domestic industry and increasing competiveness by increasing financing through the Brazilian Development Bank (BNDES) for manufacturing, in particular for locally produced goods. *The Plano Brasil Maior* also implemented tax cuts, reduced energy prices, placed restrictions on imports, and implemented marginal cost fixations of national products, particularly oil. This has led to an increase in exports and allocation of resources that were leveraged through increased financing. Other policies were also put into place to help support agrobusinesses and family agriculture.

Brazil uses a hybridized form of nationalized industry. The country nationalized its oil in 1953 under the administration of Getúlio Vargas. New deposits of offshore oil were discovered in 2006, and these reserves more than doubled Brazil's known oil reserves. Lack of adequate infrastructure and technical challenges to access the reserves make it difficult for the state owned Petrobras to move forward with extracting as a sole venture. To help address some of these issues, it grants foreign companies (like Shell) oil concessions, while permitting Petrobras the majority stake in the petroleum industry. These agreements help the growth strategy in this sector because they attract foreign capital and increase market competition. Instead of dismantling the previous strategy of resource nationalism, the state-owned Petrobras is forced to adopt policies to increase its efficiency and distribution. Profits generated from this industry are then redirected to help address Brazil's other goals—increasing spending on social programs and infrastructure.

The results of the policies and investments enacted during Lula's presidency and Roussef's first administration have been susbstantial. There was an increase in the production of grains, from 96 million tons in an area of 40 milion hectares in 2001-2002, to 191 million tons

produced in an area of 56 million hectarers in 2013-2014 (Holland). The amount of the country's exports also increased during the 2002-2013 period, rising from US$60 billion in 2002, to US$242 billion in 2013 (World Bank).

Demographic

The need to address current social inequalities and to build infrastructure that can keep up with the dynamic demographic environment in the country can be best observed in Figure 1. It reflects a fast paced demographic transition, and an overall decrease in birth rates. A decreasing birth rate, and a large population that will soon reach retirement age, pose serious challenges for the state. The government is justifiably concerned about maintaining a strong enough labor force and growth rates to support the aging population. Current population is approximately 202,656,788 according the CIA World Factbook. 2011 data reflects that about 84.6% of population lived in urban areas, about 90.4% of the population was literate, and about 21.4% lived below the poverty line.

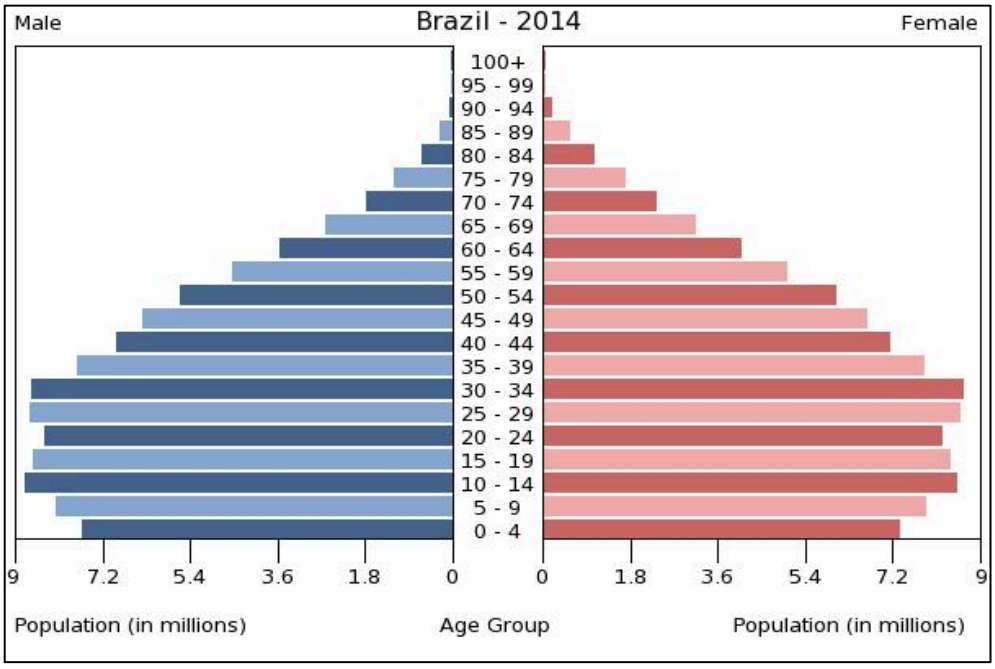

Figure 2. Population Distribution Pyramid, Brazil. Source: CEPAL (2014).

International Relations

In 1985, Brazil joined the World Trade Organization (WTO), establishing its commitment to open up its markets. Brazil's commitment to regional integration can be best observed by the alliances it has created with its neighbors in the last 24 years. Its memberships include (UNASUR)[24], SELA[25], and ALADI[26]. Without a doubt, Brazil's most powerful regional integration participation has been seen in MERCOSUR. Established after the 1989 Uruguay Rounds, Brazil joined Argentina, Uruguay, and Paraguay to establish the Common Market of the South or MERCOSUR through the Treaty of Asunción. MERCOSUR is an economic and political agreement that promotes trade between Argentina, Paraguay, Uruguay, Brazil, and Venezuela (goods, services, and labor). Its motto, "Our North is the South," reflects the ideology of this sub-regional trading bloc, focused on strengthening the economies of these south American countries so that they can have a competitive advantage in the future. Thus far, Brazil has had the most consistent growth and has been one of the key contributors to their success.

[24] The Union of South American Nations is an alliance between the twelve countries that make up South America. The primary objectives are UNASUR are to develop economies by increasing market competitiveness, address social inequalities, and strengthen the democracies of South American countries. For more, see: http://www.unasursg.org/.

[25] The Latin American and Caribbean Economic System is a regional organization made up by the 28 countries of Latin America and the Caribbean. Established in 1975, it aims to provide opportunities for collaboration, integration, and consultation on economic strategies. For more, see: http://sela.org/view/index.asp?ms=258&pageMs=26475.

[26] The Latin American Integration Association is a regional organization made up of 13 member Latin American countries. Established in 1980, it aims to promote socio-economic development and encourage the establishment of a Latin American-Common Market. For more, see: http://www.aladi.org/.

Annual GDP % Growth of Mercosur Members

	2005	2006	2007	2008	2009	2010	2011	2012	2013
MERCOSUR									
Argentina	9.2	8.5	8.7	6.8	0.9	9.2	8.9	1.9	3.0
Brazil	3.2	4.0	6.1	5.2	-0.3	7.5	2.7	1.0	2.5
Paraguay	0.2	2.9	3.5	4.5	-5.6	11.2	2.6	-2.8	13.6
Uruguay	6.6	3.9	6.3	6.8	1.9	8.6	6.2	3.6	4.4
Latin America	3.2	4.2	4.3	2.9	-2.6	4.7	2.2	2.0	2.4

Table 1. GDP Growth of Mercosur country members. Source: CEPAL (2014).

Current Development Goals

Moving forward, Brazil's current strategy has a focus on continued economic growth and income distribution. In the "Brazil Economic Outlook," Márcio Holland, the Secretary of Economic Policy, further developed on this by stating that the current administration's medium-term goals were to focus on "investment in human capital, infrastructure (airports, roads, railways and ports), attracting private sector capital and expertise, development of the oil and gas sector, [and creating a] diversified and sophisticated domestic market."

Agriculture is another strategic sector for economic growth. In the 1970s, the country imported a high percentage of agricultural products. Today, it ranks among the world's top five agricultural producers and exporters; this is where its involvement in the Cairns Group is important. Agriculture currently accounts for 5.8 percent of GDP (World Bank). According to Dilma's agenda, projected investment in this sector for 2014-2015 will be at R$ 156.1 billion (Roussef). There will also be an increase of credits available for agricultural farmers, of about R$24.1 billion for 2014-15 (Roussef). Part of the growth strategy for this sector includes investments in logistics to aid in the transportation of agricultural products and reductions in energy prices.

Political and Economic Policies

The new economic team recently announced its intention to work towards economic growth, rigorous control over inflation, fiscal stability and generating employment.[27] The administration tends to address market competitiveness by investing in infrastructure, developing industry, increasing exports and employment, and expanding the internal markets. All of these measures are part of Roussef's PAC-2 development model, which includes tax incentives in order to stimulate investments, more credits and long-term fiscal measures to favor sustainable growth. To improve infrastructure, the government will seek to develop education, science, technology, and concentrate on stimulating innovation. The *Banco Central* (Central Bank) will play an important role in ensuring the convergence of inflation to the targeted 4.5%. Federal, political, urban and public service reforms will be passed to seek permanent, sustainable economic growth. Dilma announced that a plebiscite is to be held in order to make structural changes in hopes of facilitating better representation. Definitions of financing rules will also be improved, as well as the definitions of federal entities to ensure more efficiency in public services. Urban reforms will seek to improve transportation, health, housing and public security.

The State of Mato Grosso

Of particular interest is the state of Mato Grosso where the fieldwork to support this study took place. Mato Grosso was one of the states that was targeted for development during the military dictatorship, and during the 1970s, it became an important segment of the "Amazon frontier" (de Almeida 2013). People began migrating there in large numbers through some of the public and private settlement projects that were established in the region. Between 1960-1970 the

[27] According to a release by the PT. http://www.pt.org.br/equipe-economica-preve-mais-emprego-e-menos-inflacao/

estimated population was about 117,608 people, but by 1980 that number had jumped to 433,545 (IBGE, *Censos demográficos de 1980, 1970, 1960*). According to the 2010 census, the total population in Mato Grosso was 3,035,122[28] people (IBGE). Within a span of 50 years, the landscape of the state has been transformed dramatically, especially because of the expansion of mechanized agriculture. Today, the state is considered one of the most dynamic agricultural frontiers of the Amazon.

Geography

With a total area of 903,378. 292 (km^2) Mato Grosso is the third largest state by area in Brazil, and the only state in the country that holds within its borders three distinct biomes—Cerrado (savanna), Pantanal[29] (wetlands), and Amazon rainforest (see Figure 3). These ecosystems contribute to the biodiversity that the state boasts. Mato Grosso's neighboring states are Rondônia, Amazonas, Pará, Tocantins, Goiás, and Mato Grosso do Sul. It also shares a small border with Bolivia in the southwest portion of the state. The state's major rivers are the Teles Pires and the Araguaia. Intensive, mechanized agriculture and cattle ranching have been major drivers of deforestation in this region, threatening not only these delicate ecosystems, but also the livelihoods of the people that inhabit them. A significant portion of the state has been converted into agricultural land.

[28] The IBGE currently estimates that by 2014 that number rose to 3,224, 357 people.
[29] The Pantanal is the world's largest wetland ecosystem, home to an estimated 1,000 species.

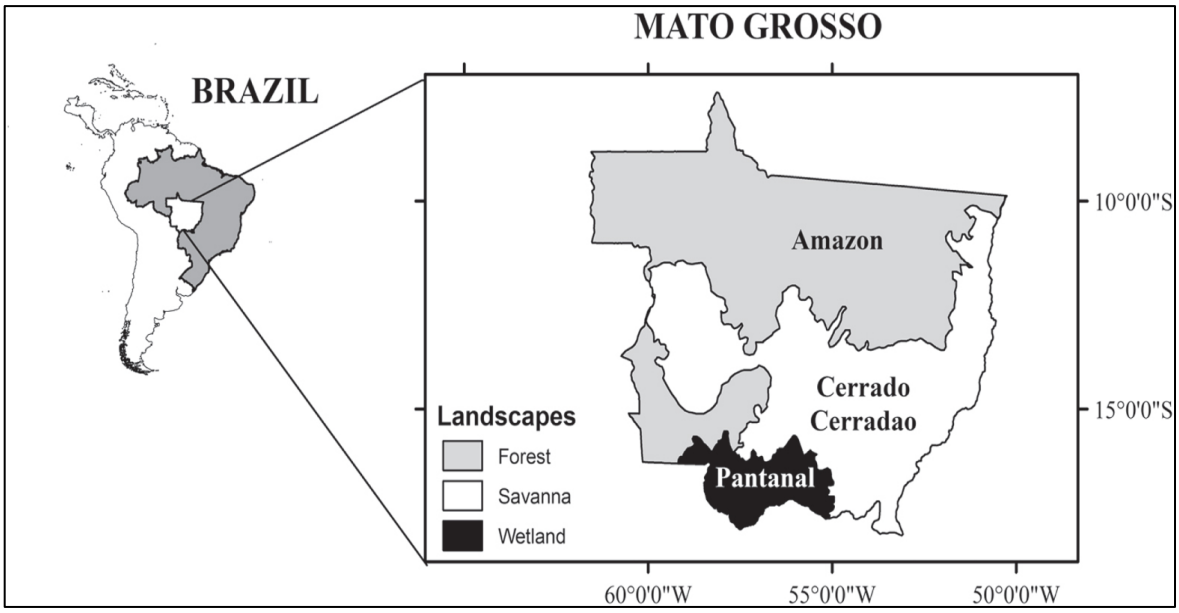

Figure 3. Map of Mato Grosso's main biomes (*Instituto Brasileiro de Geografia e Estatisticas*, IBGE, 2013).

Land and Agriculture

During the period of colonization of the Amazon region, the military dictatorship encouraged settlement of Mato Grosso and its neighboring states through a series of public and private settlement projects. Recognition that it possessed favorable conditions for agriculture came early and since then, not only has agricultural production expanded in the state, but it has also intensified mainly in soybeans and cattle ranching. It was poised as a "perfectly equipped region for intensive cultivation of cereals" by modern agricultural practices, especially successful if combined with "agricultural machine and ration fertilization" (Correa Filho 31). In fact it is often referred to as the "Midwest of Brazil." Soil quality in the state varies greatly, ranging from almost sterile to very fertile which reflects variation in geology and climate (Corrêa Filho 30). Currently, agriculture makes up about 40% of the state's GDP (IBGE).

In 2013, the total land area utilized to cultivate soy was 7.9 million hectares, or about 51.8% of the land area (IBGE). As can be observed from Figures 4 and 5, Mato Grosso has steadily increased its production of soybeans over the past seven years and it currently leads as the state with the highest total production. In 2013, the state was producing 23,417,000 metric tons of soybeans. The total area used for cattle ranching was 24 million hectares, with a total of about 29 million heads of cattle. The largest companies are Amaggi[30], Fiagril, Vanguarda do Brasil, Cargill, ADM do Brasil, Bunge Alimentos, Louis Dreyfus Commodities Brasil, and JBS[31], which are all agricultural in nature. Currently, the companies that report the highest exports of agricultural commodities are the multinationals.

Because of the expansion and profitability of big agriculture and mining projects, land has been highly contested in Mato Grosso. The practice of *grilagem* has been a big issue, so much so, that one study demonstrated that at one point, the land titles exceeded the total land area in the state (Wolford and Wright 20). The state's primary protected areas include the Apiacás Biological Reserve, Caverna Aroe Jari, Chapada dos Guimarães National Park, Juruena National Park, Pantanal Matogrossense National Park, and the Xingu National Park.

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[30] Founded in 1977, Amaggi was originally a seed production and commercialization company. After planting soybeans, the company's portfolio and its activities has expanded. Today the main activities of the company include grain origination and commercialization, agricultural production, soybean seeds, fertilizers, soybean processing, fluvial transport, and power generation.

[31] JBS was founded in 1953 and today it is the world's largest producer of proteins (beef, lamb, pork, and chicken). The company also markets leather and various other products like collagen, metal, biodiesel, and hygiene and cleaning products. They have an extensive portfolio which includes some well known brands like Swift, Pilgrim's, Maturatta, and Pierce. The company operates in 24 countries on five continents, and its products has a reach to over 150 countries. The company went public in 2007 and by 2012, it had already reported revenues of R$ 76 billion or $25.5 billion dollars (JBS website).

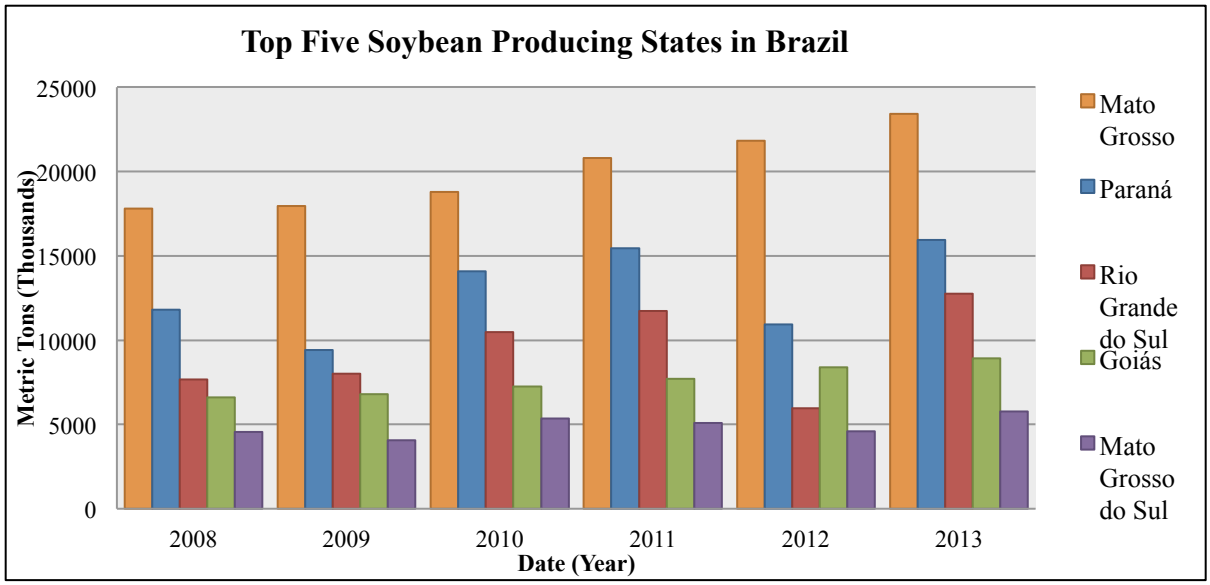

Figure 4. Data Source: IBGE, Banco de Dados Agregados (2013).

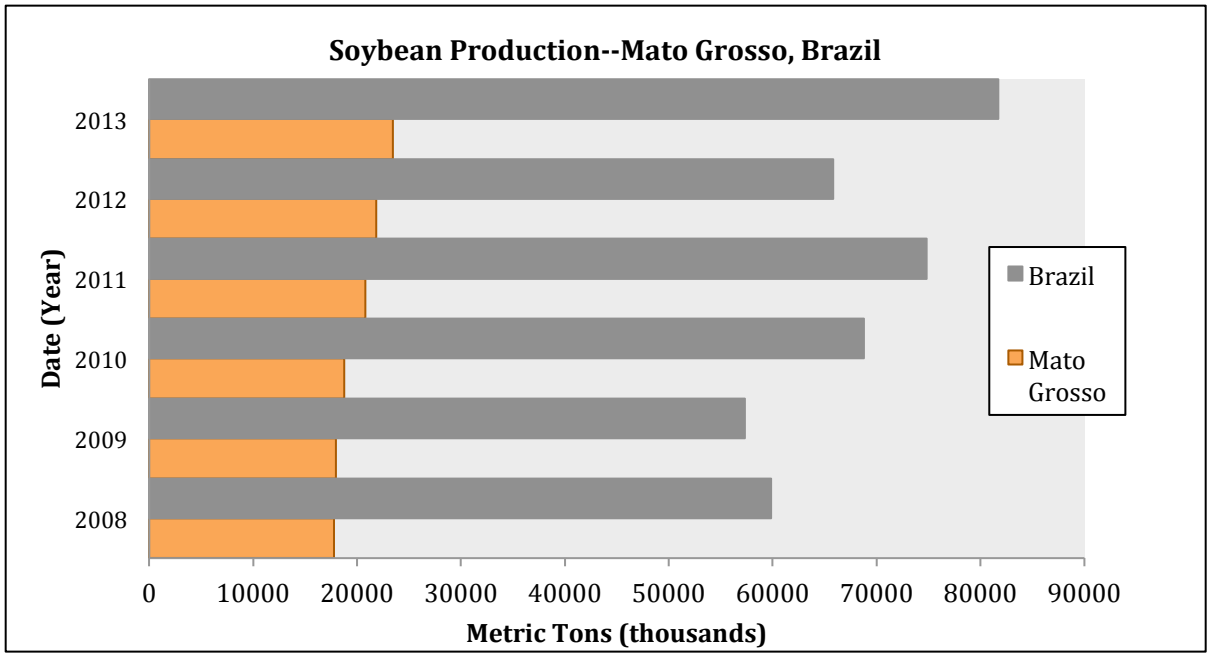

Figure 5. Data Source: IBGE, Banco de Dados Agregados (2013).

THESIS STRUCTURE

The remainder of this thesis consists of three chapters. In Chapter Two, I will introduce the theoretical perspective applied in this research through a literature review and describe the research methodology that was utilized to conduct this study. In Chapter Three, I introduce the case study, which is the centerpiece of this research. It documents the ethnographic research conducted at the field site, followed by discussion of the data collected that identifies predominant lines of discourse. Finally, in Chapter Four, I present key conclusions derived from the thesis and make recommendations for future research.

This chapter provided an introduction to the topic by describing initial motivations for engaging in the research and introducing the issues that this thesis focuses on. It also sought to provide the socio-political context to help frame the issues that will be presented in more detail in this research, in particular, land tenure, the rise of social movements like the MST, and the environment. Finally, it introduced the regional focus of this research by providing some demographic and historical background of the state of Mato Grosso.

CHAPTER 2: CONNECTING FOOD, AGRICULTURE, SOCIETY, AND THE ENVIRONMENT

The main objective of this chapter is to present the intersection of food sovereignty, social movements, and environmental concerns in Mato Grosso, Brazil. As such, this chapter is organized into three main sections. The first is a section outlining the theoretical framework employed in this research. It will seek to identify current issues in the global food system, present traditional agricultural trends and alternatives, discuss conceptual food frameworks, and identify areas that could benefit from further research. The second section is the identification of the research question(s) that this thesis focuses on. Finally, the last section is a description of the methods employed in this research.

Current Concerns: A Broken Food System?

According to the United Nations, one in nine people in the world suffer from chronic undernourishment[32]. That is a total of about 805 million people—a staggering number. While this represents a 12% decrease from the last decade, as world populations continue to grow so does the absolute number of hungry every year. On any given day, it is common to see images or news reports of hunger splashed across the screens of our televisions, computers, and mobile devices. For many people in the developed world, these images are as foreign as the faces that are depicted. Such images come in conflict with the reality of our supermarkets that are often stocked full of seemingly endless varieties of goods and produce. How can people be dying of hunger when there is an apparent plethora of food available at our fingertips? How is it possible

[32]Defined as "insufficient food for an active and healthy life" in the Food and Agriculture Organization's "The State of Food Insecurity in the World 2014. Strengthening the enabling environment for food security and nutrition." 2014. Rome, FAO.

that well into the 21st century we are not any closer to solving the global food crisis? Does this point to a broken food and agriculture system?

Understanding the intersection of food, agriculture, society, and the environment is fundamental to address this issue. There are numerous case studies that point to the ways people are fighting the challenge of feeding people. Some of these approaches advocate for social justice and adopt strategies to prioritize the environment as well.

The following explores the global food crisis, analyzes the shortcomings of dominant agricultural models, and explores alternative practices in agriculture. Finally, it considers the notion of food sovereignty as the most viable framework for action by which marginalized communities are attempting to address these issues. By doing so, they are gaining more agency and are also becoming environmental actors. This is an introduction to the concept of food sovereignty and its connections with the environment and marginalized peoples.

Rising Costs & Unequal Distribution: Global Food Crisis

In recent years, the prices of basic food commodities have increased dramatically around the world, almost double that of prices in the early 2000s (FAO). For example, in the period between 2000 and 2014, the price of tortillas in Mexico skyrocketed from four pesos per kilo to fifteen pesos per kilo[33]; in India, rice increased from 10.9 Rs per kilo to 27.7 Rs per kilo[34]; in Egypt the price of bread increased from LE 0.05 to LE 0.35 per loaf[35]; and in Brazil the price of

[33] According to data collected at the Universidad Nacional Autónoma de México, Centro de Análisis Multidisciplinario. http://cam.economia.unam.mx/
[34] Department of Consumer Affairs. National Informatics Centre and World Food Programme.
[35] The price of subsidized bread is LE 0.05 per loaf, it has been fixed at this price since 1989. Another interesting thing to explore is the change of loaf size and nutritional value. Ahmed, Waad. "Egypt's New Subsidy System Tackles Bread Consumption." *Ahram Online*. 14 July 2014. http://english.ahram.org.eg/NewsContent/3/0/106252/Business/0/Egypts-new-subsidy-system-tackles-bread-consumptio.aspx

sugar jumped from R$ 0.17 per kilo to R$ 0.93 per kilo[36] over the past decade. Meanwhile, small farmers find it increasingly difficult to make a living—the inputs are increasing but their profits are not (Rosset 2011). They simply cannot afford to pay for all of the fertilizers, irrigation systems, and other modern agricultural inputs that are necessary to stay competitive with more commercialized ventures. Because of this, by many modern development measures, mainly those focused on total economic output amounts and yields, family farms are deemed "inefficient."[37] On the other hand, agribusiness is able to reap in profits through the production of an exorbitant amount of food, though often not for the benefit of local communities. Their reliance on mechanization, fertilizer inputs, and pesticides, enables them to take advantage of economies of scale (Buhler et al. 2000). Most of their products, such as cattle and grains, are exported at lucrative prices.

The period between 2008 and 2009 exemplifies the issue of distribution and access to food. Though harvests and profits hit record numbers, there were also record numbers of the world's poor who were experiencing hunger during that time (Holt-Giménez 2009, 143). Holt-Giménez points out that:

> …with record grain harvests in 2007, according to the FAO, there was more than enough food in the world to feed everyone in 2008—at least 1.5 times current demand. In fact, over the last twenty years, food production has risen steadily at over 2.0 percent a year, while the rate of population growth has dropped to 1.14 percent a year. Globally, population is not outstripping food supply. Over 90% of the world's hungry are simply too poor to buy enough food….Unsurprisingly, the food crisis has provided the world's major agrifood monopolies with windfall profits. In the last quarter of 2007 as the world food crisis was breaking, Archer Daniels Midland's earnings jumped 42 percent, Monsanto's by 45 percent, and Cargill's by 86 percent. Cargill's subsidiary, Mosaid Fertilizer, saw profits rise by 1,200 percent. (144)

[36] World Bank.

[37] Peter Rosset (1999) argues that in fact the exact opposite is true. In terms of efficiency, he points out that monocropping leaves empty land, while inter-cropping (like that practiced by small-scale farmers) does not. So when looking at how small vs. large-scale farming compare in terms of efficiency, while large-scale ventures have higher crop *yields*, it is small-scale farmers that have higher *total outputs* because they produce more on their plots.

More recent data shows that domestic prices for basic food commodities continue to rise (see Figure 6), with the highest increases occurring for grains. The profits have also continued to increase for many of the agroindustry's giants (FAO). In the end, this dichotomy demonstrates that the problem does not lie in if we are producing enough food to "feed the world," but in the efficacy of the dominant models that are being implemented. Furthermore, it reveals flaws in the power structures that support these models.

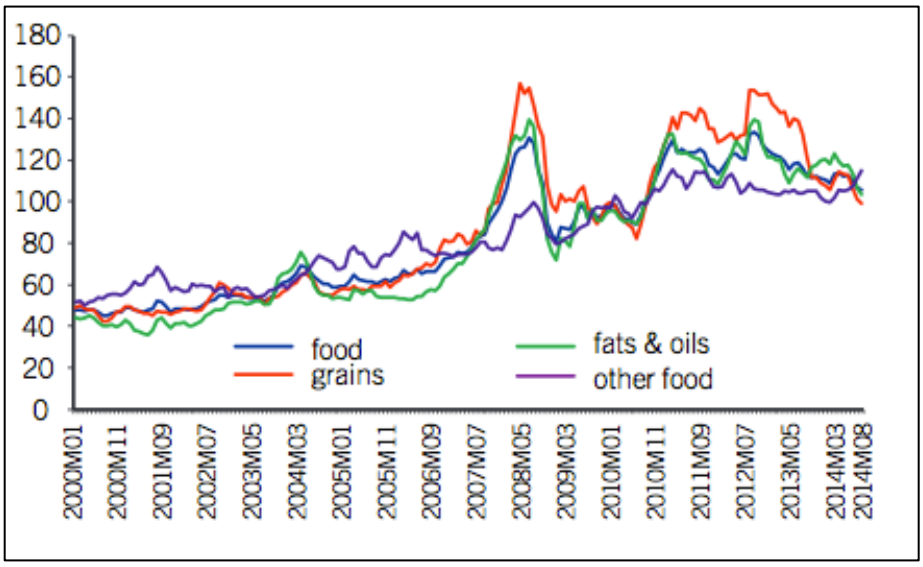

Figure 6. *World Bank Global Food Price Index*. Source: World Bank, DECPG.

***Philosophical Lines in Agriculture*: From the Green Revolution to Systems-Based Agriculture**

Attributed to Norman Borlaug[38], the "Green Revolution"[39] became the catalyst for the implementation of capital-based approaches to agriculture that focused on maximizing yields

[38] Plant geneticist who was responsible for developing the first high-yielding, disease-resistant wheat varieties that significantly contributed to increasing production in a number of developing countries during the middle of the 20th century.

(Pingali 2012; Hazell 2002). Faced with the need to address undernourishment especially in developing countries, attention was turned to developing biotechnology that would increase the production of basic food crops. This initiative received considerable support from the Rockefeller and Ford foundations, and it included major investments in plant breeding, the expansion of chemical fertilizers, and pesticides to increase crop yields. Those that were in favor of this approach argued that creating crops that were more resilient—pest and drought resistant—as well as easily harvested, was key to solving the issue (Hazell 2002). This reflects a move towards intensive, mechanized agriculture that focuses on maximizing yields to address the global food crisis. It is important to clarify that technology and plant breeding is not bad as long as the biotechnology focuses on the needs of farmers and they have control over it, as is the case with participatory plant breeding[40]. If farmers are able to utilize biotechnology to address the many complexities that they face—yield, nutrition, etc.—then it can have very positive outcomes (for example, if they are able to make choices about how and when they will plant crops, and what seeds they will save). But the moment that biotechnology loses focus on the farmers then it poses a real problem. This is best exemplified from the perspective of seed companies whose primary objective is to make profits, so they prohibit farmers from saving seeds. Farmers, especially small-scale farmers, are no longer truly served in this type of system. Unfortunately, it is the capitalist stance adopted by agribusiness conglomerates that has caused the most issues, driving the establishment of large tracts of monoculture that no longer serve farmers, or individuals, but instead seek to maximize profits. The focus shifted from maximizing yields to maximizing the bottom line.

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[39] The term was coined by USAID Administrator, William S. Gaud, in 1968.

[40] Discussed in depth by Halewood, Deupmann, Sthapit, Vernooy, and Ceccarelli (2007) in "Participatory Plant Breeding to Promote Farmer's Rights," Toomey (1999) and Vernooy (2003).

Thus, the Green Revolution paved the way for the genetic modification of plants and the emergence of the dominant high-input agriculture models that primarily focus on producing a single crop on large tracts of land, and utilizing a lot of inputs and heavy machinery to harvest. Environmentalists have criticized this approach. They argue that though it results in high outputs, such a model promotes environmental destruction like deforestation, soil erosion and the unsustainable extraction of water. The current model replaces ecosystem services and functions found in more diverse natural systems with high inputs. The cost of such a system in terms of energy reliance and poor resource use efficiency is high (Cruse et al. 2010). There are many shortcomings and negative effects of high-input agriculture, among them, the heavy pesticide use and fertilizers that have contributed to poisoning water systems (Polanco Rodriguez et al. 2015), and have affected human health as documented by Wright (2005), Singleton et al. (2015), Neto et al. (2014), Bouchard et al. (2011), Isman (2006), and others. The increasing exposure of people to these toxins, especially agricultural workers, has caused serious health problems including respiratory issues, poisoning, birth defects, and even death.

The evidence challenging the principles of the Green Revolution has been mounting for decades. Scholars like Holt-Giménez (2009) argue that far from solving the world's food problems, it has contributed to the rising costs of food and turned food into a commodity. Sectors of agriculture have been monopolized, as can be observed from the role of companies like Monsanto who exemplify the trend of "vertical and horizontal concentration within the world's food systems" (Holt-Giménez 2009, 145). There have been productivity gains but they have not done enough to decrease the per capita hunger rates. Furthermore, agriculture has been compromised into a neoliberal framework where profits and market strategies have done little to help the poor gain more access to food. Overall, peasants do not receive adequate training on

using some of the biotechnologies, which has encouraged intensive farming in environmentally fragile areas, further increasing their vulnerability (Hazell 2002). In fact, peasants have been increasingly displaced from their lands and left without resources (145). Holt-Giménez (2009) and Peet (2009) criticize organizations like the World Bank and the Food and Agriculture Organization for "addressing" the food crisis through the neoliberal models of the Green Revolution that have contributed to spreading the use of biotechnologies.

Proponents of a different philosophical line in agriculture, systems-based or ecological approaches, posit that a more viable solution to the world's food crisis is found by observing and aligning more closely with nature. The answer lies in creating 'high-quality matrices'[41] that mimic the way nature functions (Perfecto et al. 2009). Some of these models include agroecology, agroforestry and permaculture.

- Agroecology is a land-use management system that calls for understanding the ecological interactions of agricultural products in nature and encourages diversity in food systems (Altieri, Rosset, Carrol, Vandermeer, Gliessman, Francis et al.).
- Agroforestry is a land use management system that combines agriculture and forestry techniques to create more diverse and sustainable extractive system utilizing different layers of forest cover and progressive, but sustainable, extraction (Nair).
- Permaculture is a land-use management system that focuses on design to maximize space, minimize waste and human labor (Mollison, Holmgren, Whitefield).

This research will focus on agroecological models as they seem to resonate the best with the food systems that will be discussed in detail in later chapters. Agroecological models can be

[41] Perfecto et al. define high-quality matrices as areas of high biodiversity, in other words, high movement (migration rates) and reproduction of organisms. These are typically created by the use of alternative agro-ecological methods (x).

highly effective, resilient, encourage biodiversity, and promote social equity and cultural diversity (Altieri 1987 and Altieri et al. 2012). In his review of agroecology, Shanbacher (2010) observes that, "Not only has research revealed that agroecological methods are more productive than high-input systems in terms of output per unit area, it has shown that they are more biologically diverse and environmentally conservationist" (58). Figure 7 highlights the features of agricultural systems in terms of their productivity, diversity, integration, and efficiency as explained by Funes-Monzote (2009). The highest productivity and highest efficiency will be reached with little external inputs, recycling, and the integration of crops and livestock. All of these are traits associated with agroecological paradigms. According to this framework, the future does not lie in monoculture to produce long-term solutions to the challenges posed by the global food crisis, but in implementing strategies associated with more sustainable methods like agroecology. Furthermore, Figure 8 makes connections between sovereignty, resilience and agroecological models. It demonstrates how agroecology can help communities reach resilience by producing and being maintained by three types of sovereignty: food, energetic, and technological. In short, Altieri et al. and Funes-Monzote propose that more systems-based or ecologically minded practices in agriculture are more holistic because they can help us in addressing both the human and environmental aspects of the food crisis. As mentioned previously, oversimplified systems often ignore this, often coming at high human and environmental costs.

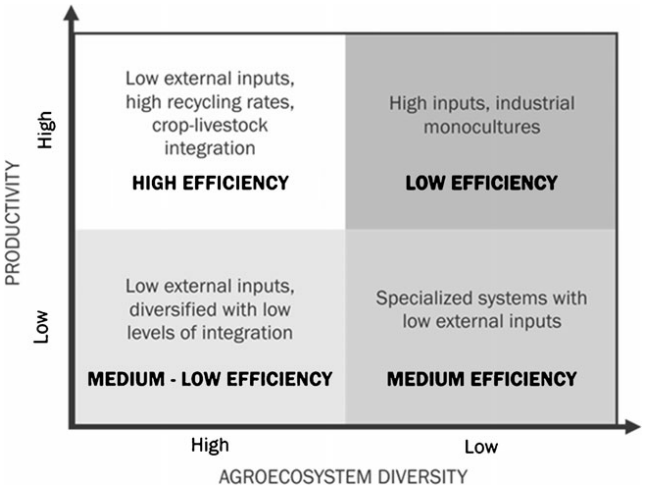

Figure 7. Features of green agroecosystems of the future: productivity, diversity, integration, and efficiency. Source: Funes-Monzote (2009).

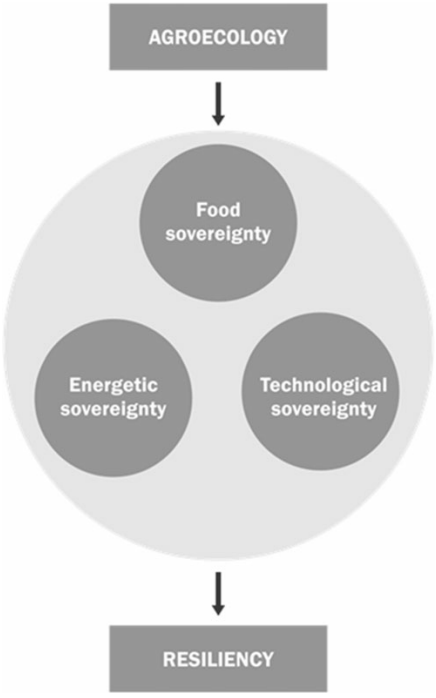

Figure 8. The three types of sovereignty to be reached by an agricultural community or region by following agroecological principles and in the context of a resiliency strategy. Source: Altieri et al. (2012).

Why Food Sovereignty and not "Right to Food" or "Food Security"?

Drawing on social movement conceptual frameworks, food regimes theory emerged as a way to understand the construction and impacts of different food systems. First formulated by Friedmann (1987) and later solidified by Friedman and McMichael (1989), food regime analysis seeks to identify, "the strategic role of agriculture and food in the construction of the world capitalist economy. It identifies stable periods of capital accumulation associated with particular configurations of geopolitical power, conditioned by forms of agricultural production and consumption relations within and across national spaces" (McMichael 2009, 135). This has been one of the most important frameworks developed in rural sociology and agrarian studies because it "brings a structured perspective to the understanding of agriculture and food's role in capital

accumulation across time and space" (McMichael 2009, 140). It is through this lens that scholars have been able to continue identifying various patterns in food systems and consider their successes or shortcomings in addressing the global food crisis. Food regime analysis is useful because it can help us differentiate between potentially environmentally destructive agricultural models (high-input, low diversity) and alternative models (low-input, high diversity) in relation to emerging global concerns over resources, hunger, and climate change (McMichael 2009, 141). The frameworks that will be discussed here are "right to food," "food security," and "food sovereignty":

- The concept of "right to food" emerged in the 1970s and has been defined by the United Nation's Special Rapporteur Olivier de Shutter as, "the right to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and which ensure a physical and mental, individual and collective, fulfilling and dignified life free of fear." (de Shutter; 2011)
- The FAO defines "food security" as "a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (*The State of Food Insecurity in the World 2001*, Rome).
- The notion of "food sovereignty" emerged in the later part of the 20th century as an alternative to the concept of "food security" and "right to food" (Wittman, Desmarais, and Wiebe 2). Food sovereignty as a concept originally emerged from *La Vía Campesina* (The International Peasant Movement) movement at the 1996 World Food Summit. It

was developed mostly to expand on the limitations of the food security framework, and it defines food sovereignty as, "People's right to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems."

The discussion of "right to food" is beyond the scope of this research, as more attention will be drawn to explore the differences between food security and food sovereignty. Nonetheless, it is important to mention some of the important markers of this concept. The concept itself first made an appearance in Article 25 of the Universal Declaration of Human Rights[42], "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, *including food*, clothing, housing and medical care and necessary social services…" (emphasis added). In 1966, the right to food was recognized in similar language at the International Covenant on Economic, Social and Cultural Rights. Over the next few decades, it became an important discussion point at several food summits and conferences, and in publications by the FAO. Then in 2004, the right to food stance was officially adopted by the FAO as part of their guidelines to combat world hunger. Anderson (2008, 2013) and De Shutter (2011) discuss important elements of right to food. Anderson (2008) draws from the right to food idea to expand on a new concept—rights-based food systems. On the other hand, De Shutter continues to advocate for ensuring the right to food, but in doing so he also identifies the importance of turning to alternative sustainable agricultural methods.

Fairbairn (2010) approaches these regimes, or systems that emerged in response to the corporate-oriented neoliberal food regimes, through a process of 'framing.' Among such frames exists the previously mentioned 'right to food,' 'food security,' and what Fairbarn considers to

[42] Drafted in 1948.

be the latest—'food sovereignty.' She points out that essentially food sovereignty is a "counter-frame," because it addresses how the other contemporary frames fail to call in question the "dominant political-economic" systems driving unequal food distribution and access, particularly the food security frame (22). According to her analysis of food security, the ideas of the framework are contradictory because they promote "industrialization of national agriculture and [increased] external food aid." She concludes that this is why the food security frame is problematic because it leaves many gaps unaddressed in the overall food crisis. In the end, it is essentially a neoliberal discourse that focuses on the microeconomic outcomes and does not effectively address policy changes that governments should be enacting (24). However, she observes that because the idea of food sovereignty was developed by *La Vía Campesina*, it inherently advocates for marginalized communities, rejects market-oriented strategies for food production, and seeks to push political changes (i.e. agrarian reform) (27). This is important to note because *La Vía Campesina*[43] is an autonomous, international movement that focuses on unifying peasants, farmers, indigenous people, landless people, and rural workers—individuals and many social movements have joined their network. Its members represent 73 countries and over 200 million farmers. Today, it is recognized as one of the main actors in debates about food and agriculture. The movement strongly opposes "corporate driven agriculture and transnational companies that are destroying people and nature" (*Via Campesina*).

Schanbacher (2010) further distinguishes the ethical differences between food security and food sovereignty. Like Fairbairn, he acknowledges that the food security framework reinforces globalization and economic models that essentially "reduc[e] human relationships to

[43] Born in Belgium in 1993, the movement was founded by a meeting of a group of small-scale farmer representatives, representing Africa, Europe, Asia and the Americas. This emerged in response to increasingly global agricultural policies and agribusiness that was making it difficult for small-scale farmers to make a living. These farmers and their representatives got together to unite their common struggles and discuss ways in which they could become key actors in these debates.

their economic value" (ix). He criticizes the food security approaches adopted by the FAO and the IFAD, saying that their programs to "integrate the rural poor into the global market," are not inherently bad, but they do raise some ethical questions because these organizations then "tacitly conceive of humans in the same way that neoliberals see them, as purely economic beings. The peoples of the food sovereignty movement, on the other hand, fight for an alternative conception of the human being" (101). At a very basic level, the *way* hunger, malnutrition, and people are treated in these two models is very different. While both food security and food sovereignty consider access to food a human *right*, food sovereignty departs in that it also considers the way that food is *accessed* (how it is grown) and the *types* (nutritious and cultural appropriate) of food. He uses the cases of the Zapatista movement in Mexico and the Landless Workers Movement (MST) in Brazil as good examples of how social justice movements are connected to agricultural issues. Specifically, he looks at how they are evaluating food rights and access, and moving forward with objectives that overlap with food sovereignty. He says about the Zapatistas:

> On a broad level, the Zapatista movement fights for the same sorts of economic, political, and cultural rights as the food sovereignty movement. On a specific level, the movement represents a forum for women to voice their struggles for equality, justice, and solidarity. Both the Zapatista and food sovereignty movements represent an emerging plight of women's rights… [by challenging] current neoliberal models of globalization… [they are] opening up new forums for voicing historical injustices and marginalization. (60)

Schanbacher looks to the system of cooperatives or collectives that the MST have established in their encampments and settlements to further exemplify some of the basic tenants of food sovereignty:

> With respect to production, cooperation, and environment, the MST has created agricultural production cooperatives, both collective and semi-collective, in which local farmers produce on common lands for the benefit of the entire community…it has trained local farmers in agroecology, including environmentally safe methods of production, as well as the cultivation of natural, organic seeds…by confronting current neoliberal

> economic and corporate visions of globalization, the MST has not only presented a symbolic challenge to these visions, but also a practical and substantive alternative to current conceptions of globalization, hunger and poverty. (74)

In both of these case studies he highlights overlapping objectives of food sovereignty, in particular, the use of sustainable agricultural models as key projects engaged by these movements, exemplifying the *how* of the food sovereignty debate.

Wittman, et al. (2010), Holt-Giménez (2009; 2011), Perfecto et al. (2009), and Schanbacher (2010) agree that while the concept of food security focuses on maximizing production and distribution to increase food access opportunities, it falls short because it does not consider three important factors: *how*, *by whom*, and *where* food is being produced. This argument concerns the language and the pragmatic approach to solving the issues of nutrition, as well as the means of production and accessibility. From a theoretical standpoint, they agree that it is precisely there—in the how, by whom and where—that food sovereignty differentiates itself. Wittman, et al. (2010) propose that:

> …[the] theory and practice of food sovereignty has the potential to foster dramatic and widespread change in agricultural, political and social systems related to food by posing a radical challenge to the agro-industry model of food production. The transformation envisioned entails a changing relationship to food resulting from an integrated, democratized, localized food production model. It also entails a fundamental shift in values expressed in changed social and political relations. (4)

By analyzing several case studies, they argue that food sovereignty is possible and that despite the challenges; it is being obtained by different communities around the world. One particular case that is highlighted is an MST member who speaks to the importance of adopting a food sovereignty approach in their struggle for agrarian reform, and that this approach resonates closely with their own model of cooperation. She says that through this model of cooperatives,

the people are "producing better and…marrying production with social and political organization," but they "continue to be vigilant. From this point of view, we have to always be asking: for whom do we want to produce? What do we want to produce? And how are we going to produce?" (Wittman et al. 39). These cooperatives reflect the basic premises of food sovereignty and their success helps reinforce that this framework is possible. Wittman et al. also turn to two initiatives of La Vía Campesina's Biodiversity and Genetic Diversity Working group in Brazil—the 'Campaign Against Green Deserts' and the 'Seeds Sovereignty Campaign.' They claim that both of these illustrate:

> …how contemporary peasant movements are engaging in a practice of agrarian citizenship aimed at reconnecting and repairing the relationship (and in a sense re-establishing equilibrium) between human society and nature. These campaigns highlight the importance of biodiversity in agricultural systems and of supplying local needs before filling international trade markets. They also express what food sovereignty looks like in a model of agriculture in which both nature and society are protected in their rights to independently exist and evolve. (97)

In the case of the Campaign Against Green Deserts, they point out that the community was able to do this by campaigning against monoculture, and by expanding locally a conversation about genetically modified organisms, genetic diversity, water resources, and land (Wittman et al. 99). As for the Seeds Sovereignty Campaign, it has been able to extend awareness about the "ecological implications of genetic modification of seeds," organizing peasants to ensure accessibility to more varieties of seeds that are cost-effective and promote diversity (100).

In short, they argue that the food security approach can be easily adopted by neoliberal intensive agricultural models as a means to justify the end, often ignoring the importance of foods that are healthy and culturally appropriate, which makes it a constraining model at best.

Often, it is the stance of food security that governments and agribusiness have adopted, which offers little "possibility for changing the existing, inequitable, social, political and economic structure and policies that peasant movements believe are the very causes of the social and environmental destruction in the countryside in both the North and the South" (Wittman et al. 2010, 3). The food security model is essentially a market-based approach to development that only addresses *parts* of the issue in a limited way, forcing peasants to reframe its assumptions and seek alternative solutions (McMichael 2010). Furthermore, this globalization and industrialization of agriculture has significantly contributed to distancing people from their food and the places where their food is grown, both physically and at conceptual levels. This has a major impact on severing the cultural connections and meanings associated with food:

> While much of the mainstream information about the food system focuses on the market components such as marketing, trade, packaging, nutrient and safety regulations and branding, building ecologically sustainable food systems requires fundamental changes of values and relationships. (Wittman et al., 2010, 11)

Thus, because food security does not require fundamental changes in values and how we relate to food, it is too constrained. On the other hand, food sovereignty significantly departs from these constraints because it opens up the space to discuss environmental impacts and consider more holistic solutions—it is a more democratic, ecological, and relationship-focused food system. Holt-Giménez (2009), Altieri (2009), Rosset (2002) and Wright (2009) recognize that while food security primarily focuses on the human aspect of the food debate, food sovereignty encourages dialogue on the environment. They believe that it does this by encouraging the revalorizing resources—soil, water, seeds, and promoting alternative forms of agriculture that minimize human's negative impacts on the environment. This environment-focused dialogue emphasizes the understanding of the interconnectedness of people and our

natural environments—the goals of food sovereignty are dependent on a better relationship with the environment. The work of these scholars has also made contributions that argue for food sovereignty as the new standard model in agriculture because it addresses social needs and it aligns more closely with the environment. This model promotes alternative diversified agricultural methods like agroecology and agroforestry as integral pieces to holistic solutions to the food crisis. Therefore, food sovereignty integrally links agriculture and food with environmental and social issues. These proponents acknowledge that while, like food security, food sovereignty can also be interpreted just through an anthropocentric lens (focusing on the human aspect of food), their studies show that in practice, subscribers generally adopt the aforementioned more sustainable agricultural methods.

In practice, the concept of food sovereignty has expanded the possibilities for experimenting with sustainable agriculture and allowed peasants to exercise more political power (Desmarais 2002, 2007; Edelman 1999; Wittman 2010). Peasants incorporate many of the objectives of this system into their demands for a more holistic agrarian reform, one that addresses social, environmental and cultural aspects, promoting and constructing a new kind of "agrarian citizenship" (Wittman 2010, 165). This new conceptualization of citizenship has "laid the groundwork for a new research agenda on the changing relationships between land, power, social organization, and citizenship in the countryside" (Wittman 2010, 166). As Wittman notes, agrarian citizenship promotes rural social action through diverse forms of production, and links it to political action, encouraging individuals and communities to organize and turn to sustainable agriculture in order to reach food sovereignty.

Connections Among Agriculture, Conservation, Environment, and Food Sovereignty

Debates on the implementation of effective models of environmental conservation have been ongoing. Studies by Ehrlich and Pringle (2008) and others have pointed out the threats that human activities pose to biodiversity on the planet. Undoubtedly, it is this awareness that for a long time promoted the "parks without people" environmental preservation and conservation models. What then, are the connections between conservation and agriculture? Some scholars highlight the importance of including people as part of, not excluded from, conservation strategies. Ricketts (2001) considers the concept of the matrix, especially when addressing fragmented landscapes. Perfecto and Vandermeer (2008) explore the connections between agriculture and conservation to propose a new paradigm. Supporting the establishment of 'high-quality matrices,' they argue, is key. These are spaces in which the extinction rate of organisms is minimized, in part, by maintaining a landscape that facilitates the movement of organisms. Considering that these matrices are "created by alternative agro-ecological techniques," the only way to promote "high-quality matrices is to work with rural social movements currently expanding around the world, thus casting the conservationist in league with the proponents of the concept of food sovereignty" (Perfecto et al., 2009). Schanbacher (2010) agrees that, "small-scale agriculture promotes biodiversity, connects farmers and families to the land, and provides an intimate link between farmers and the crops and foods they produce and consume" (57). These scholars link some of the goals of environmental conservation directly to food sovereignty, but most importantly, they point out the integral role played by rural social movements and small-scale farmers. Like McMichael (2010) points out, peasants who have often been "deemed casualties of progress" are now becoming the agents that not only critique existing models, but that push forth models like food sovereignty, which take into account more than just

economics (4). This idea is also supported by Chappell and LaValle (2011), and Vandermeer (1995, 1997, 2001, 2003) who uphold that biodiversity conservation and agriculture should not be mutually exclusive. Rather, for either one to be successful they should be connected.

PURPOSE OF THIS STUDY

It is in this context, in the intersections among environmental discourse, agriculture, and rural social movements that this research adopts the approach of moving beyond theory and analyzing food sovereignty in practice. Other ethnographic fieldwork has explored these themes. Wittman (2010) sought to place this understanding of agrarian citizenship, and observe how it manifests itself in the negotiations and reconfigurations of social mobilizations amongst rural people in Mato Grosso, Brazil. She notes how the MST have changed historical land relationships in Brazil because their land occupations have created "new spaces of social participation, [that] revaloriz[e] agrarian stewardship and redefin[e] citizenship beyond a development narrative which views smallholders as obsolete" (165).

Holt-Giménez (2009) makes similar claims about the relationship between agrarian citizenship and the integration of alternative agricultural models from the observations he has made in his own fieldwork. In particular, he considers the importance of La Vía Campesina and also highlights the Brazilian Landless Worker's Movement (MST):

> "one example of the potential transformational power of integrating peasant advocacy with agroecological practice comes from a peasant movement that is actively integrating these two aspects into its own organization. Brazil's Landless Worker's Movement (MST), one of Vía Campesiana's founding members, is the largest rural social movement in the Americas. The MST has had a significant influence within Vía Campesina and a profound effect on agrarian politics worldwide. The MST has settled more than a million landless peasants and forced the redistribution of thirty-five million acres of land (an area the size of Uruguay)". (152)

But perhaps what is missing in both of these studies is further exploration in the way that MST members articulate and negotiate environmental values in their day-to-day lives. For example, what types of activities do they engage in that support their redefinitions of agrarian citizenship and stewardship, and what is the role of the environment in this? Do they engage in environmental discourses to justify their integration of alternative agricultural models, or is food *sovereignty* (note the emphasis on sovereignty) solely at the center of the framework? How often do people articulate the connection between the environment and food sovereignty? Exploring these questions in specific locales can provide us with opportunities to analyze the different types of manifestations of food sovereignty.

This research will increase the scope of food sovereignty scholarship by presenting a case study of an MST settlement in the state of Mato Grosso, Brazil. The case study describes the similarities described in the literature and also discusses considerably different narratives that expand the traditional food sovereignty discourses. This work is not representative of all MST settlements either in Mato Grosso, or in the rest of Brazil; it could never be. It does point, however, to some common patterns and unique themes that merit further research.

RESEARCH QUESTIONS

1. What are the environmental discourses of the MST (if any) and what are the activities taking place in specific locales that can inform observations of 'food sovereignty' practices?
2. What do these discourses and activities speak of in terms of the MST movement as a whole? Are there trends about food sovereignty in practice that prove or depart from previous observations done by other researchers?

I hypothesize that in practice, the notion of food sovereignty is interpreted in different ways. These interpretations convert the concept into a more fluid and dynamic form, providing individuals with more freedom to adhere to the specific ideals that appeal to them personally. More generally, I hypothesize that by adopting this model, the MST has begun a process of transforming itself as not merely a socio-political movement, but an environmental-socio-political force in Brazil.

METHODS

This research takes primarily an ethnographic approach. Therefore, the primary methods that I employed were participant observation, and semi-structured and structured interviews. From this data I hoped to get some insight about the way that people express their experience with the MST, as well as ask them specific questions regarding their notions of environmental issues, food, and farming in hopes to understand the movement more through the personal experiences of some of its members and supporters. The secondary data consists of my field notes, photographs that I took during site visits, literature that I was given or came across, and social media pieces. From these data I hoped to get a better sense of not just individual and collective values, but also how these food sovereignty, agrarian reform, and environmental discourses are communicated to both the MST community and to non-MST member Brazilians.

Ethnography was the most appropriate method by which to address my research because it provided me with the opportunity to immerse myself into the community's activities. Ethnography challenges the researcher to gather and synthesize information about their subject(s) and compose a narrative that is representative of them (Van Maanen 2011). What made this an obvious choice for this research is because it is one of the most holistic ways to

scratch beneath the surface and gather materials, make observations, and interact with a group of people in order to gain a better understanding of their values and their culture. Ethnography requires the researcher to reflect on their experience, to consider their own limitations and influences throughout the research process, to question his/her own perspective and worldview. Ethnography was the best method to expose myself to the opportunity to listen to the ways that members of the MST articulated their perspectives, to observe their practices, and to develop and understanding of how they lived and the types of activities that they engaged in.

Before starting the research, I was concerned about how I would be received amongst the MST. I often asked myself why members of the MST would even accept to talk to me, and wondered that even if they did, how much they would be willing to share. I had already attempted to make a connection with them before arriving in Brazil but did not have any luck. My attempts to reach out to the national office through email and phone calls always seemed to lead to a dead-end, confirming to me that the MST are careful about who they let in, and who they give permission to tell their story. In the end, I was able to approximate myself to them, but it came after a lot of patience and by networking. I hypothesize that this happened for two reasons: 1) the relationship I built with the CPT, and 2) my cultural heritage.

When I first arrived in Brazil I reached out to the CPT in Salvador, Bahia in hopes to gain some insight about land conflicts and environmental issues in the region. After spending some time visiting the office and interacting with some of their agents, I was offered the possibility of going to Mato Grosso to continue looking at the issues where they have been the most contentious. The invitation was to allow me the opportunity to interact with a large group of researchers, activists, and policy-makers, but also to provide me with the opportunity to meet members of the MST. Once there, CPT agents helped facilitate opportunities for me to meet

members of the MST leadership in the state. These introductions were key in helping me meet MST members because they happened through representatives of an institution that has been an important partner and supporter from the very beginning of the movement. It is an institution that they have had a close relationship with and that they trust.

After the first couple of interactions that I had with members of the MST, I noticed a markedly different type of reception depending on how I initially identified or described who I was and what I was doing when I introduced myself. At first, every time I introduced myself I told them that I was a graduate student from the United States. When I said that, I was received well but I felt like whenever I talked to my informants they held back in some of things that they said. It felt very much like formal interviews and less like engaging interactions. Then, when one of the CPT agents introduced me to a group of people as being Mexican, I got a completely different reaction. Immediately people wanted to talk to me, even seeking me out, to ask questions about the Zapatistas and agrarian reform in Mexico, and Mexican *telenovelas*[44] and sitcoms. I was amazed to notice such a different reception, like suddenly, people felt like they could relate to me and we had richer grounds to establish a conversation beyond just the questions that I had. Afterwards, every time that I introduced myself I made it a point to tell people that I was from the United States but that I had Mexican heritage. I am certain that his dynamic impacted the outcome of this research. Had I not established this connection with my informants, it is possible that it would have taken much longer to establish a good rapport with them. I believe that the fact that I spoke Portuguese and was eager to continue learning as much as I could also helped me in building a good rapport with my informants. I spent many afternoons with several of my informants engaging in impromptu Spanish/Portuguese lessons.

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[44] *Telenovelas* are soap operas.

To interpret the information gathered from the interviews, discourse analysis was utilized to discover common patterns or themes. It was chosen as a complimentary method to the ethnographic work because like Hajer (1995), Glerich et. al. (2005), and Hannigan (2006) discuss, discourses are essentially statements that interpret the world around us and which become deeply embedded in societal institutions, agendas, and knowledge claims. According to Hannigan (2006), discourses are interrelated sets of "storylines" which have a triple mission: 1) to create meanings and validate action; 2) to mobilize action, and; 3) to define alternatives. Identifying these discourses allows the researcher to engage in deeper analysis that can inform practices engaged by a group of people.

Data collection

My participant observation sessions took place an average of about twelve hours a day over the span of six weeks. The locations where I conducted participant observation were varied. I engaged with people at the occupation of the INCRA offices in Cuiabá, at the symposium in Colíder, at several *acampamentos* and *assentamentos*, the Assentamento 12 de Outubro, at the Instituto Ouro Verde in Alta Floresta, and at UNEMAT in Sinop. Figure 9 maps the fieldwork locations.

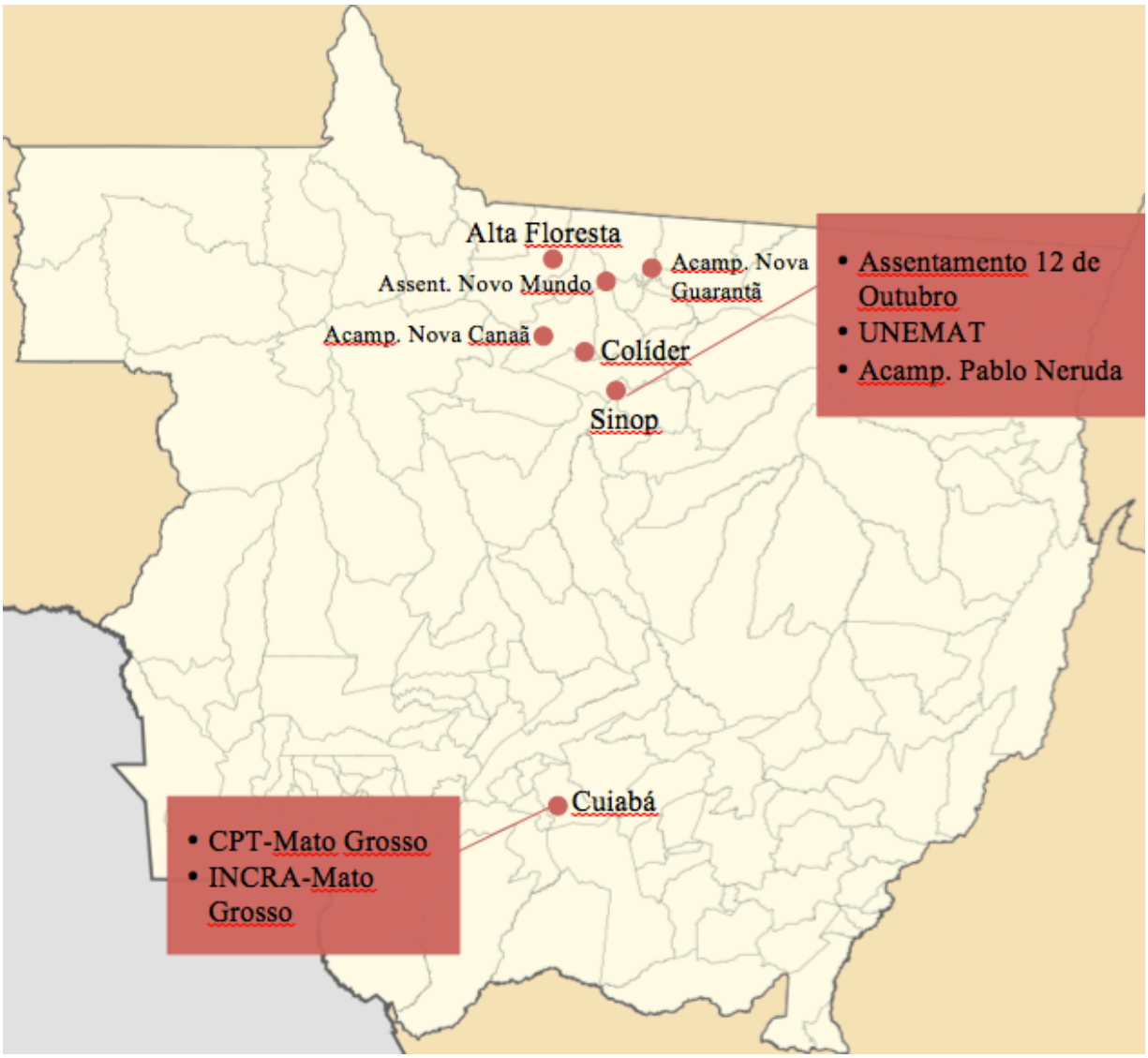

Figure 9. Fieldwork locations. Source: Map adapted from IBGE.

Descriptions of each locale:

- INCRA is the institution responsible for resolving land tenure issues in Brazil. Several *acampamentos* and *assentamentos* from north-central Mato Grosso convened to occupy its Cuiabá offices during the week of July of 2014 to demand fair negotiations for the two *assentamentos* that would be affected by a hydroelectric dam project and to request land allocation for the *acampados*. This became a key

opportunity to meet members of the MST and develop an understanding of how occupations are organized.

- The Acampamento Pablo Neruda is located on a large estate that neighbors the Assentamento 12 de Outubro. There I got to see an *acampamento* that was in a later stage. Most of the *acampados* had already been occupying that land for about five years.
- The Assentamento Novo Mundo is located in northern Mato Grosso, near the border with Pará. This is an *assentamento* in an earlier stage; most of the *assentados* had only been occupying that land for less than one year.
- The Simposio Amazonia Terra Legal took place at a facility operated by the CPT in Colíder, Mato Grosso. This three-day meeting provided the opportunity to learn more about issues regarding land tenure in the region. Here, community leaders, researchers, activists, and government officials discussed legal parameters and strategies.
- The Assentamento 12 de Outubro is located is north-central Mato Grosso. This was the location where I spent the most amount of time because of the level of community organization and the various food-based projects.
- The Instituto Ouro Verde in Alta Floresta, Mato Grosso is a non-profit organization that works to help promote biodiversity through sustainable agriculture, solidarity commercialization programs, recovering springs, and assisting farmers in the collection and exchange of seeds.
- UNEMAT is a key partner of the Assentamento 12 de Outubro, the campus is located in the city of Sinop, Mato Grosso.

- The city of Sinop, Mato Grosso is located in the north-central part of the state. It is currently the fourth-largest city with a population of more than 110,000 people. The city was founded in the mid-1970s, and since then has become an important agricultural center (mainly soy, cotton, and livestock).
- The Acampamento Nova Canaã do Norte is located in the northern part of the state of Mato Grosso. This area has been occupied by the MST for nearly 10 years.
- The Acampamento Nova Guarita is located in the northern part of the state of Mato Grosso, it has been occupied by the MST for about four years.
- The Assentamento Nova Guarantã is located in the northern part of the state of Mato Grosso, it has been settled for five years.

In these different locales, I visited people's homes and farm plots, attended community meetings, and participated in the farmer's markets. I stayed with several different families, which allowed me to gain more proximity with a larger group of people. The goal of the participant-observation sessions was to reach a wide demographic that reflected a variety of gender, age, ethnic, and class, and educational backgrounds. I interviewed members of the MST as well as supporters, educators, and activists of other organizations in order to get multiple perspectives.

From this diverse group of people, I recruited twenty-two people to participate in structured and semi-structured interviews. Of these interviews, eight of the informants were women and sixteen were men. Though the sample is small, it provides a sufficient basis for focused exploratory ethnography to gain some insight on my research questions. In the following sections, I provide a brief discussion of the criteria that I employed when I selected the participants, and give detailed descriptions of each informant. Important to acknowledge is the

way that my personal world view could have influenced the people that I recruited to participate in the interviews, as well as the way that I asked the questions. Though I attempted to have a representative sample, I am aware that I was drawn to talking to people who were very open with their opinions about environmental issues, and their connections with food and government policy.

In total, I conducted twenty-five, semi-structured interviews with twenty-two key informants. Of these, twenty were audio recorded, and the remaining four occurred via email correspondence. Though I assured all of the informants full anonymity, no one specifically asked for their identity to be concealed. Regardless, I have given everyone a pseudonym. The participants were selected based on the following criteria: 1) their connection to the MST, 2) the types of activities they are involved in, and 3) their occupation. Table 2 outlines basic information about each of the informants based on the aforementioned criteria.

Name	Age	Connection to the MST	Types of Activities involved in	Occupation
Josué	36	member	*Cantasol* cooperative coordinator at 12 de outubro	family farmer
Paulo	23	supporter	UNEMAT student coordinator for the Cantasol cooperative at 12 de outubro	UNEMAT student, business
Daniele	24	supporter	UNEMAT student, coordinator for the Cantasol cooperative at 12 de outubro	UNEMAT student, economics
Marina	26	supporter	MAB militant	student, Universidade Federal do Rio
Aguinaldo	44	supporter	works as a technician training settlements on agroecological systems	family farmer, agroecologist
Nelson	33	member	Cantasol cooperative (12 de outubro)	family farmer
Pedro	41	member	Cantasol cooperative member (12 de outubro)	family farmer
Leandra	32	supporter	Collects data about land issues, environment, social movements	Administrator, Instituto Centro da Vida
Joaquim	45	member	Cantasol cooperative member (12 de outubro)	family farmer
Alexandre	54	member	Cantasol cooperative member (12 de outubro)	family farmer
Thiago	47	member	Cantasol cooperative member (12 de outubro)	family farmer
Andreia	27	supporter	SISCOS management and community outreach	SISCOS coordinator, Instituto Ouro Verde
César	37	member	Cantasol cooperative member (12 de outubro)	Driver for Cantasol, family farmer
Antônio	34	N/A	Training and implementation of agroecological systems, recovering springs	Technician, Instituto Ouro Verde
João	28	supporter	MAB militant	MAB, Mato Grosso state coordinator
Neuza	54	member	community organizer, nurse at an MST settlement	nurse
Carlos	58	member	Cantasol cooperative member (12 de outubro)	family farmer
Diego	61	member	Cantasol cooperative member (12 de outubro)	family farmer
Gabriel	34	member	Collect data on land conflicts, organize and implement workshops at MST settlements	CPT agent
Miguel	57	member	Collect data on land conflicts, organize and implement workshops at MST settlements	CPT agent
Maria	56	member	community organizer	family farmer
Ana	38	N/A	geographer: maps land conflict issues in the state of Mato Grosso	Professor, UFMT

Table 2. Data on informants.

Informants

Josué, 36, joined the MST in his mid-20s, after having followed the movement for some time and supported them. For many years he worked as a construction laborer in the city before deciding to abandon that and join the MST. He is a respected community leader who spends most of his time coordinating activities within the *assentamento*, facilitating partnerships, and participating in the MST's national leadership activities. He is a serious man, who finished his education only after joining the movement and recently began a program with the MST school in agronomy. He is originally from the state of Mato Grosso do Sul, but moved to Mato Grosso about 12 years ago. I met Josué in Cuiabá at an MST occupation of the INCRA offices at the beginning of July 2014.

I was introduced to Paulo, 23, at a workshop in Colíder. Paulo is studying business at UNEMAT. He was born and grew up in Sinop, Mato Grosso where they had limited access to interacting with the MST prior to the involvement with the Cantasol project at 12 de Outubro.

I was introduced to Daniele, 24, at a workshop in Colíder, she grew up in Sinop, Mato Grosso where she now attends UNEMAT and is studying economics. Growing up in Sinop, she too had limited access to interacting with the MST prior to her involvement with the Cantasol project at 12 de Outubro.

Marina, 26, is a MAB activist who has been involved with the Assentamento 12 de Outubro since the first organizations and litigations surrounding the Usina-Sinop hydroelectric dam project. She is currently studying education at the University of Rio de Janeiro. She was born and grew up in Nova Terra do Norte, in the northern part of the state of Mato Grosso. I met her through another MAB activist in Sinop.

Aguinaldo, 44, is an agroecologist who has been a long time supporter of the MST. He was born in the state of Rio Grande do Sul, but his family relocated to Pará when he was a child. He completed his education as an adult, taking evening classes and attending workshops on the weekends. He has been an agricultural consultant for the MST for the past seven years and has his own land which he uses to support his small family. I met him at the workshop in Colíder.

Nelson, 33, was born in Mato Grosso near Cuiabá and joined the MST when he was 26 years old with the occupation at 12 de Outubro. He only has primary education, but has gotten involved in MST education programs, as well as trainings in organic agriculture. He joined the COOPERVIA a year ago and has been selling goods through CANTASOL for the last six months.

Pedro, 41, was born in Bahia and moved to Mato Grosso when he was 18 to live with some family. He grew up farming, but ended up working in the service industry until he joined the MST when he was 34. He only has primary education and since joining the MST, he began farming again to support his family. He is a member of the COOPERVIA and has been selling goods through CANTASOL since the program was launched. I met him at the first CANTASOL meeting I attended at the Assentamento 12 de Outubro.

Leandra, 32, works at the Cuiabá offices of the Instituto Centro da Vida in Mato Grosso. She helps collect data on environmental issues and social movements in the region. She was born in São Paulo where she attended the federal university before moving to Cuiabá three years ago. I met her at the workshop in Colíder and later again at her office in Cuiabá.

Joaquim, 45, is a family farmer. He was born in the state of Mato Grosso do Sul and relocated to Mato Grosso when he was nine years old with his family. He received primary education, but has not received any further formal education since then. He joined the MST

when he was 35 years old in hopes to have access to some land for his growing family. He has been a part of the COOPERVIA for two years and began selling goods through CANTASOL when the program launched. I met him at the Assentamento 12 de Outubro during one of the community meetings.

Alexandre, 54, is a family farmer and member of COOPERVIA. He joined the MST in Rio Grande do Sul when he was 29 years old. He has been involved in several occupation processes in at least three different states, but relocated to Mato Grosso when he was 40 with his family. He finished his secondary education through the education programs of the movement. I met him at one of the community meetings at the Assentamento 12 de Outubro.

Thiago, 47, is a family farmer and a member of COOPERVIA. He was born in Goias but relocated to Mato Grosso with his parents when he was 15 years old. He only received primary education. He joined the MST when he was 23 years old. He has been selling goods through CANTASOL since the program was first launched. I met him during the first CANTASOL meeting that I attended at 12 de Outubro.

Andreia, 27, is one of the managers of the SISCOS program at the Instituto Ouro Verde in Alta Floresta, Mato Grosso. She was born in Mato Grosso and attended the federal university in Cuiabá where she studied sociology. Her interactions with the MST are primarily centered on the cooperatives and solidarity economic systems, both in the coordination and training. I met her when I visited the organization's headquarters in July of 2014.

César, 37, is a family farmer and a member of COOPERVIA. He currently sells produce through CANTASOL and is also the driver for the weekly deliveries to Sinop. He was born in Pará, but his family relocated to Mato Grosso when he was about seven years old. He only received primary education. He joined the MST when he was 18 years old in hopes of acquiring

some land to farm in the future. I met him during at the first CANTASOL meeting that I attended at the Assentamento 12 de Outubro.

Antônio, 34, is an agroecology technician that works with the Instituto Ouro Verde. He studied agronomy at the federal university in São Paulo, and got his masters degree in Ecology from the federal university in Mato Grosso. He works with family farmers and the MST to implement agroecological and agroforestry systems. I met him during my visit to the Instituto Ouro Verde in July of 2014.

João, 28, is a MAB activist who has been working with various social movements for the last eight years. He was born and raised in Terra Nova do Norte, Mato Grosso. He has received a secondary education and has gotten trained in community mobilization by various entities. He is currently the state coordinator for the MAB movement for Mato Grosso. He has been directly supporting the MST for the past five years, working closely with the Assentamento 12 de Outubro during the last two years. I met him at a workshop in Colíder in July of 2014.

Neuza, 54, was born and raised in the state of Mato Grosso. She studied nursing and worked at a hospital in Cuiabá for most of her life until joining the MST when she was 38 years old. Since then, she has been helping the *acampamentos* and *assentamentos* in the state, providing basic medical care and training people. She lives at an MST settlement outside near Cuiabá. I met her at the INCRA occupation in Cuiabá at the beginning of July of 2014.

Carlos, 58, is a family farmer and member of COOPERVIA. He has been living in Mato Grosso for the past 30 years and joined the MST when he was 45. He worked as a construction worker for most of his life before becoming a farmer. He received secondary education. He has been selling his produce through CANTASOL since the program was first launched. I met him at the Assentamento 12 de Outubro during a community meeting in July of 2014.

Diego, 61, is a family farmer and member of COOPERVIA. He did not receive formal education until after he joined the MST when he was 40 years old. Since the program launched, he has been selling his produce through CANTASOL. He was born in Rio Grande do Sul and has been living in Mato Grosso since he was 31 years old. I met him at one of the CANTASOL meetings at the Assentamento 12 de Outubro in July of 2014.

Gabriel, 34, is an artisan and a CPT agent who collects data on slave labor and exploitation in the state of Mato Grosso. He joined the MST when he was 22 years old. He was born and raised in the northern part of the state where he received his secondary education. Part of his work includes visiting MST camps and settlements to implement workshops and organize meetings. I met him during at workshop in Colíder.

Miguel, 57, is a CPT agent who collects data on slave labor and exploitation in the state of Mato Grosso. He was born and raised in the state of Tocantins, and has been living in Mato Grosso since he was 43. He joined the MST when he was 46 years old. Part of his work includes visiting MST camps and settlements to implement workshops and organize meetings. I met him during a workshop in Colíder.

Maria, 56, is a family farmer and community organizer at the Assentamento 12 de Outubro. She was born in Mato Grosso do Sul and has been living in Mato Grosso for the past 20 years. She helps with the coordination of the womens' group at the Assentamento 12 de Outubro and volunteers with the Novos Talentos activities. She received secondary education and has participated in leadership workshops organized by the MST. I met her during the INCRA occupation in Cuiabá at the beginning of July 2014.

Ana, 38, is a geographer and professor at the Federal University of Mato Grosso. She maps information regarding land conflict issues in the state of Mato Grosso. She was born in

Recife and received her PhD at the federal university of São Paulo. She and her colleagues have produced several publications that document land ownership and disputes by different stakeholders in the state. I met her at her office in Cuiabá.

CHAPTER 3: CASE STUDY

> The Landless represent a new project for agrarian reform and social transformation, one that has agroecology as its base for agricultural production.
> (MST website)

This chapter seeks to describe my observations of the Assentamento 12 de Outubro and to analyze the data that was collected (interviews, my field notes, literature that was collected on site visits, and photographs) during the ethnographic fieldwork conducted in the *assentamento* and at partnering institutions between July and August of 2014. First, it will provide some background on the history of the *assentamento*. Then, it will describe the organization of the *assentamento* (physical organization and leadership) as well as the activities that take place there. Finally, it will seek to make connections between the information provided by the informants and some of the other data collected to shed some light on the research questions proposed in this study.

Assentamento 12 de Outubro

In 2007, 150 families occupied a part of a farm just outside of the city of Sinop, Mato Grosso. These landless people occupied area for about two years before INCRA redirected them to the location where they have been granted land. In 2010, per the agrarian reform, this location was officially handed over to the families. Located in the municipality of Cláudia, about 50 km from the closest urban center of Sinop, the Assentamento 12 de Outubro is one of the symbols of victory for the MST in the state of Mato Grosso (see Figure 10). There are another six *assentamentos* in the municipality of Cláudia, which makes it one of the areas with the highest concentration of *assentamentos* in the state (Ana, interview #O4). Most importantly, it lies in the

heart of the state's most concentrated soybean production area, which makes their push for alternative forms of agriculture to sustain their communities that much more interesting (and quite often, contentious).

Today, the *assentamento* stands on what used to be a *fazenda*, nearly 4,000 hectares of land that had belonged to one individual and has since been divided up evenly amongst the 150 families per INCRA. Each family now owns a *sitio* or plot of about 20 hectares. The remaining 1,000 acres or so have been designated as an extractive reserve that will be communally operated.

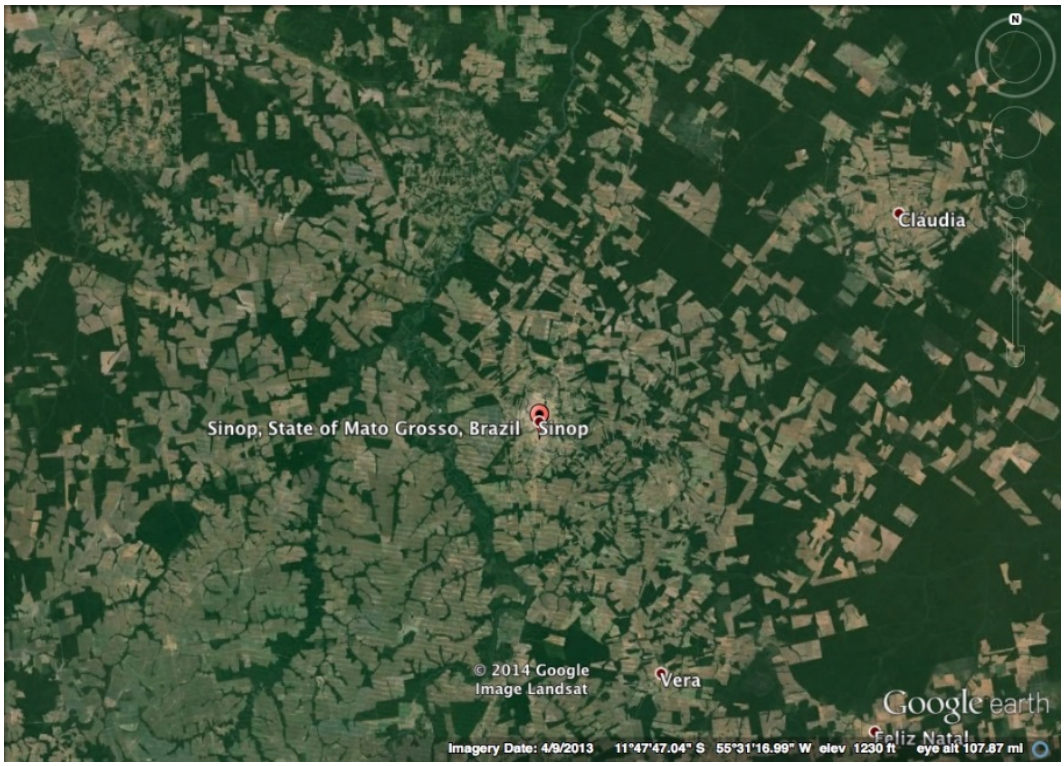

Figure 10. Municipality of Cláudia in central Mato Grosso.

I met members of the *assentamento* during an occupation of INCRA's Cuiabá offices in early July of 2014. MST members from all of the state—camps and settlements alike—gathered there for a week to pressure INCRA to allocate families to settlements and to work with 12

outubro to come up with a resettlement area for the people that would be left homeless when their lands got flooded from the Usina dam project. I arrived there with CPT field agents, and after some brief introductions, I was placed in the care of two women who promised to show me around the camp and introduce me to some settlement leaders that had gathered there. I was quickly put to work helping gather seeds, hang posters, banners, and flags, chop potatoes for the evening meal, and cover tents when it began to downpour. In the meantime, I was introduced to Josué, a leader from the MST settlement at 12 de Outubro. He was described to me as a key figure in the MST movement in the state of Mato Grosso. After a conversation over dinner, Josué encouraged me to go spend some time at the *assentamento* so that I could experience what life was like there and have the opportunity to talk to people about the activities that they are involved in.

The next day, I made a trip north to Colíder, where I attended a workshop on Amazonia Terra Legal. MST leaders, educators, activists and citizens from all over the state and the surrounding states gathered there to discuss issues over land tenure in the Amazon. It was there that I got an opportunity meet a young activist named João, who was working on issues regarding land tenure and dam projects in the state. He mentioned his involvement with 12 de Outubro and it peaked my interest once again. “12 de Outubro,” he said, “is an important location not just for the agrarian reform but because we are fighting a battle over the land that will be flooded because of the new hydroelectric project in Sinop” (interview #P4). It was then that I decided to take up Josué’s invitation and spend some time at the settlement. A few days later when the workshop was over, I headed back south to Sinop and made my way to the *assentamento*.

Organization and topography

The easiest way to reach 12 de Outubro is by a private car or by bus. Currently, there is no service to reach the inside of the *assentamento*, but there is a marker on the side of the highway (163, which runs from Cuiabá north to the state of Pará) as well as a little store that sells basic provisions and a snack bar. From there, it is about a two-kilometer trek on a dirt road to reach the first couple of houses that mark the beginning of the *assentamento*.

The *assentamento* is organized around the buildings that were part of the old *fazenda*. These include a barn, and another open structure that I was told had been used for storing equipment and tagging cattle. A system of small dirt roads connects the houses, which are laid out in grids along with their respective plots. There is a small lake and a tributary of the Teles-Pires River that flows through the *assentamento*. The lake is used mostly for recreational purposes, though it is not uncommon to see people try to fish there (especially youth) from time to time. In one of the sections of the tributary, there are the remnants of a water mill that had been installed by the former landowner. After deforesting the majority of the land (and selling the lumber), the former landowner cultivated corn and soy until the land did not produce as much anymore, at which point he turned to cattle ranching (Josué, interview #M1). The only "intact" forest that remains in the area is a reserve that the community has designated as a communal agroforestry extractive area.

There are only two businesses in the *assentamento*: a small store where basic provisions can be purchased (like sugar, milk, hygienic products, dry goods, and household cleaning items), and next to it a small bar that is owned by the same family. It is common to see people gathered in this area after meetings, and in the evenings on a given day of the week. At times it seems to function as a type of informal meeting space where people exchange ideas, discuss issues, and

share news, especially after larger *assentamento* meetings that take place across the street in the old barn.

Projects

COOPERVIA and CANTASOL

I arrived at the 12 de Outubro on a Saturday morning. That afternoon I was invited to attend a meeting for the *Cooperativa de Produtores Agropecuários da Região Norte de Mato Grosso* (COOPERVIA) or Northern Region Cooperative of Agricultural Producers and the *Sistema Canteiros de Comercialização Solidária* (CANTASOL) or Canteiros Solidarity Trade System project. Cantasol is a project that emerged in the *assentamento* in 2013 in response to a proposal by two university students from the *Universidade Estadual do Mato Grosso* (UNEMAT or Mato Grosso State University) who were representing the Canteiros[45] initiative. The first organization meetings took place in November of 2012 at the *assentamento*. During which the students and their supervising faculty member from UNEMAT presented the *assentados* a proposal to establish a project that would benefit both the *assentados* and the university students, who were seeking the opportunity to put in to practice some of the concepts that they had been exposed to in their studies. These students, Paulo and Daniele, were completing their bachelor's degrees in business and economics respectively. They were motivated to approach the *assentamento* because they had become aware that many of the products that they were producing there were being done via alternative agricultural methods, and attracted by the possibility of obtaining organic produce, they decided to pitch them a project that would contribute to increasing income for these farmers.

[45] Canteiros is an initiative developed by students and professors at UNEMAT who seek to break past what they considered to be the exclusion and elitism of academia by encouraging the exchange of ideas with the community and engaging in service-learning projects. The objective is to find ways to strengthen the working class, not to maintain inequalities.

One of the main pieces of this proposal was to build a website[46] from which the farmers could market and secure the sale of their products online. This way, the possibilities to supplement income would increase for the *assentados* and more people from the urban area would have access to the goods that the *assentamento* produced. . For many of the consumers, this portal would be their first point of interaction with the *assentamento*. The primary objectives of CANTASOL are to guarantee the direct sale of goods between the producers and the consumers, and to promote agroecological production and solidary economy. The idea was modeled after another organization, Instituto Ouro Verde[47], who had already established a successful community supported agriculture program like this in Alta Floresta, Mato Grosso. The website went live in February of 2013, and the first sales occurred in March of that year. At first they sold about R$600-700[48] of goods per week, but since then, it has stabilized to about R$400-500[49] per week. The students say that the goal is not necessarily to make a significant amount of money, but to engage the community in a solidarity system that they can all benefit from (Daniele, interview #p3).

There are basically two groups of people or 'teams' that work together to keep the operation running smoothly, the city team and the *assentamento* team. The city team is composed of the two university students from UNEMAT, as well as the professor that supervises their involvement in the project. Their primary responsibilities are overseeing the website, delivering the products at the UNEMAT campus in Sinop, maintaining relationships with the consumers, reaching out to potential consumers, and processing the payments of the goods sold.

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[46] The CANTASOL website can be found at: http://cantasol.org.br/portal/.
[47] I got the opportunity to visit the Instituto Ouro Verde in Alta Floresta in northern Mato Grosso to gain an understanding of how their cooperative, SISCOS, was structured. I interviewed personnel and met some of the consumers on the pick-up date for the products.
[48] R$600-$700 is approximately $192 to $224 US dollars, according to exchange rates in May 2015.
[49] R$400-$500 is approximately $128 to $160 US dollars, according to exchange rates in May 2015.

The *assentamento* team is composed of the youth that take part in the organization and management of the production. They give the producers the orders, receive the products, organize them, and prepare them for delivery to UNEMAT. They are also gradually taking over more tasks related to the management of the website (design and updating it), and the accounting.

Every Saturday a general meeting is held that is attended by the members of COOPERVIA that sell products through CANTASOL, the CANTASOL coordinator, the city team, and the *assentamento* team. There, the producers turn in a list of items that they have available for sale and the inventory is updated. Consumers have from Sunday to Tuesday to place their orders online. Then, at the end of the day on Tuesdays, the city team gives the *assentamento* team a report on the orders that were placed through the website as well as any orders that may have been placed by individuals in the city. Over the next two days, the *assentamento* team is responsible for reaching out to the producers, and collecting and organizing the orders. On Thursdays, the orders are delivered to the university where the consumers pick them up and submit their payments if they have not done so already[50]. Finally, on Saturdays at the meetings the producers receive the payment for the goods that they sold.

That first meeting that I attended took place in what used to be the barn of the *fazenda* where the settlement is now established. It started with everyone standing up and singing the MST anthem[51]:

[50] The consumers also have the option to pre-pay for their orders online.

[51] The MST anthem was written by Ademar Bogo and the music that accompanies it was composed by Willy C. de Oliveira. The English translation was obtained from the Friends of the MST website: http://www.mstbrazil.org/video/mst-anthem.

Vem teçamos a nossa liberdade	Come let us weave our freedom
braços fortes que rasgam o chão	strong arms that tear the ground
sob a sombra de nossa valentia	under the shadow of our courage
desfraldemos a nossa rebeldia	unfurling our rebellion
e plantemos nesta terra como irmãos!	and plant in this land as brothers/sisters!
Refrão:	Chorus:
Vem, lutemos punho erguido	Come, let us fight fist raised
Nossa Força nos leva a edificar	Our Strength leads us to build
Nossa Pátria livre e forte	Our country free and strong
Construída pelo poder popular	Built by people power
Braços Erguidos ditemos nossa história	Arms Raised we dictate our history
sufocando com força os opressores	suffocating with force the oppressors
hasteemos a bandeira colorida	let us fly the colorful flag
despertemos esta pátria adormecida	to wake up this sleeping nation
o amanhã pertence a nós trabalhadores !	Tomorrow belongs to us workers!
Refrão:	Chorus:
Vem, lutemos punho erguido	Come, let us fight fist raised
Nossa Força nos leva a edificar	Our Strength leads us to build
Nossa Pátria livre e forte	Our country free and strong
Construída pelo poder popular	Built by people power
Nossa Força regatada pela chama	Our Strength's fight that calls
da esperança no triunfo que virá	the triumph of hope that will come
forjaremos desta luta com certeza	we will forge this fight with certainty
pátria livre operária camponesa	a free country of peasant workers
nossa estrela enfim triunfará!	our star will finally triumph!
Refrão:	Chorus:
Vem, lutemos punho erguido	Come, let us fight fist raised
Nossa Força nos leva a edificar	Our Strength leads us to build
Nossa Pátria livre e forte	Our country free and strong
Construída pelo poder popular	Built by people power

It was hard not to be impacted by the powerful words of the anthem. It captures the struggle of marginalized peoples and their vision for a country revitalized the strength of the working class. Curious to note here is the fact that in no place in the anthem is there a mention of Brazil as the country that is to be built "free and strong." The closest it gets is when it refers to

the "sleeping nation." In fact, the anthem sounded very much like a separation from the state, an affirmation of carving out a new country and freeing people from the "oppressors."[52]

The singing of the anthem was followed by a brief recap of prior meetings. The president of the cooperative (Josué) proposed some meeting discussion points and then the two university students spoke about the pricing of products, and marketing proposals. They went through the list of each good that is sold through CANATASOL and voted on whether the price should increase or decrease, and by how much. It caught my attention how the discussion about the urban poor having access to healthy food came up frequently, voiced most fervently by Josué. When the price of an item was discussed, some proposed raising the price, while others (especially the president of the cooperative) voiced their opinion about the importance of keeping the prices accessible to the urban poor. He reminded everyone present that one of the goals of CANTASOL was that *everyone* should have access to organic food, not just the elite from the city (field notes). Every issue that was brought up during the meeting was put to vote, every decision made collectively. There was also discussion about the organization of an upcoming agricultural market that hoped to introduce more people in Sinop to their products and garner more positive attention to their cause.

Currently, there are about 30 families that benefit directly from the CANTASOL project (field notes). Of the 30 families, about 20 of them make weekly sales consistently (Paulo interview #P1). Their products include produce (fruits and vegetables), eggs, chickens, pork, jams, candies, organic cleaning products, and bread. Though the products that are sold are not all organic, a majority of them are. About 25 of the 30 families that participate produce their goods organically (Daniele, interview #P2). On the website, the products that are organic are labeled as

[52] Later, I got a chance to have a conversation with Josué and when I asked him who the oppressors were, he said that in his opinion, the anthem refers to corrupt politicians, big business and ultimately, a capitalist system that has done very little to support the cause of the landless (field notes).

such, and at the time of sale they are differentiated by a different colored label and price (field notes). Though the numbers fluctuate, they have about 300 consumers that regularly purchase their products and there is optimism that that number will keep growing.

In August of 2014, the cooperative organized its first market—*Feira da Agricultura Familiar e Reforma Agraria* (Family Agriculture and Agrarian Reform Fair)—in Sinop to showcase their products and create more awareness about the activities taking place at the *assentamento*. It occurred Praça Plinio Calegari, a plaza in the center of the city, and was attended by most of the 12 de Outubro community. I squeezed in one of the several buses full of people and goods that made their way early in the day to Sinop, and returned late that evening amidst the excited and exhausted crowd. The event was covered by the local news and included student volunteers from UNEMAT. There were fair foods (refreshments and fried snacks) available to purchase, along with many of the goods that are available to purchase through CANTASOL (eggs, greens, vegetables, bread, fruits, etc.). Entertainment in the way of live music and a DJ was provided by the UNEMAT students, and a short play was performed by some of the youth from the *assentamento*. The play centered on the importance of community collaboration and growing food in a conscious way. The fair showcased the interaction of several of the programs taking place at the *assentamento*—education, agriculture, and technology.

Overall, there seemed to be a really good rapport between the *assentados* and the two university students. On one occasion, I got the chance to ask them what the most interesting part of working with this project was for them. Paulo said that for him, it is the possibility to experiment with an "alternative/counter-hegemonic model of work" (field notes). For Daniele it is more about the various processes involved with different groups of people:

> With the *assentados* we can develop relationships of production and commercialization that help with the organization of the community. Most importantly, it helps the youth to

> prepare for the future, learning how to manage the institutions of the community (the cooperatives, the associations, the school, etc.). When they participate in these spaces, these youth bring with them important experiences of transformation of the conditions of life and work of the communities. (Interview #P2)

Currently, there are workshops that many youth of the *assentamento* participate in as part of the CANTASOL program in conjuction with the *Novos Talentos* (New Talents) classes at the *assentamento* school. The involvement of the *assentamento*'s youth has also been one of the most positive outcomes of the project itself. Everyday the youth are more involved. Daniele says that at first she felt like they were intimidated to participate because they were afraid of making a mistake, but that through the classes they were able to help them learn the skills they needed to be successful. They also talked a lot about how it is normal to be scared of making a mistake, but they encouraged them to get more comfortable in the decision-making aspects of the project by telling them that they had to take a chance because the project is theirs, it belongs to their community (field notes).

The CANTASOL project has been a very important educational tool as well. As part of one her classes, a teacher took the students to the University to show them how the delivery/pick-up of the products worked. One of the students did not understand why some products were sold in a bundle and others by the kilo. So, the teacher grabbed one of the bundles of green onions and counted them out one by one. She explained how light they were and that if sold by the quilo, the producer would not be able to profit very much. Then, she demonstrated by placing the onions on the scale and asking the students to do the math to determine what the profit would be utilizing one approach versus the other (field notes).

Illustration 1. Florestan Fernandes school at Assentamento 12 de outubro.

Escola Estadual Florestan Fernandes

From the moment that I got there, it became very clear that one of the most important buildings in the *assentamento* was the school—*Escola Estadual Florestan Fernandes* (Florestan Fernandes state school). It is a source of pride for a lot of people and attended by people of all ages. There are many activities that take place there, including meetings and special events (field notes). The school was built by MST members of the *assentamento*, with the collaboration of other *assentamentos* with funding from the state. Even though it is a state sponsored school, uniquely the community plays a very active role in carefully choosing who is qualified to teach there. The following comment by Josué exemplifies the importance of educational spaces in shaping the culture of people; he believes that:

> Pedagogic teaching, the Brazilian pedagogic system is to favor individualism, separation. So, how is a society supposed to learn another culture if at school, the place where you are beginning your learning, your formation, they are teaching you to be individualist and devalue culture? (interview M#2)

This model that he comments on as being the predominant model in Brazil is something that they work hard to avoid at the *assentamento*. Josué describes the steps that the leadership at the *assentamento,* including himself, take in order to ensure that the education imparted there aligns to the movement's own ideals:

> Even the teachers at this school are chosen by the movement. When the state tells us that they will send a new teacher, we study their CV, if he/she does not agree with the community organizing itself then we don't want him/her. Why? Because here at this school we want to build critical citizens[53]. Even though this school is at the hands of the state, we want them to learn how to think collectively and make decisions collectively…we encourage the participation of the students in all of the decisions that are made here (Interview #M1).

It is in this space that the *Novos Talentos* program classes take place. *Novos Talentos* is another program that was established in partnership with the UNEMAT Canteiros initiative. Besides the normal pre-K to eighth curriculum that is imparted there every day, there is a series of other evening and weekend classes take are held to increase participation and promote activism within the *assentmento*. The classes are team taught by professors from UNEMAT, teachers, and volunteers from the *assentamento*. Anyone in the *assentamento* can participate. It is not just limited to school-aged children; adults and children alike benefit from these classes. The three main classes that are offered are audio-visual technologies, agronomy, and cooperativism. In the audio-visual technologies classes the students learn how to take photos, conduct interviews, film, and utilize computer software to produce short documentaries that explore a

[53] In other conversations I asked him to define his idea of "critical citizens," and he expressed that for him, critical citizens are people who are active within their community or society, they seek out opportunities to educate themselves to understand an issue and constantly question the processes in order to bring about changes to improve the system. According to him, one of the most important aspects of a critical citizen is to not take anything at face value, he gets bothered by people who exalt the MST without looking deeper to critically analyze the places where there can be improvement.

variety of themes. The most important aspect of this is that the topics they explore are all related to their own realities in the *assentamento*:

> They take pictures, do interviews…the idea of them working in that perspective is to build critical citizens and that they be the writers of their own story…the idea is to teach them how to make videos, to learn how to utilize the equipment, and that the videos are made with the things that have to do with reality. For example, some students go to an *assentado* and ask things that have to do with the reality. Like, "what did you plant? What would you like to plant? What is your life like here?" So the videos are made in that sense, you know? Based on reality itself. (Josué, Interview #M2)

The agronomy class is designed to teach the *assentados* about the importance of agriculture (especially family farming), expose them to the practice of different philosophical lines in agriculture, and provide them with tools and training as they work the pieces of land that they were given. One of the main objectives is to teach kids the importance of family farming. In this space, they are given the opportunity to learn how to grow and cultivate crops, experimenting with some of the different systems that they are learning about. Finally, the cooperativism class is designed to teach team-building, communication, critical thinking, and community collaboration skills. It is in this space that the skills learned in all of their other classes are pulled together to solve problems and develop projects that will benefit the entire community. In this class students also learn about the skills and the processes involved to run the CANTASOL project, and they are given the training to assume leadership and administrative positions within the project itself.

Like Josué mentions, the primarily goal of these classes is to contribute to the construction of critical citizens. Everything is designed to be integrated across disciplines (between all of the *Novos Talentos* classes, the regular school curriculum, and CANTASOL) and to encourage the collaboration amongst different groups of students. This is best highlighted by

Illustrations 2-5. In those illustrations (which were posted at the school), the students communicate information that they learned in their agronomy class about the different kinds of fruits and vegetables that can be grown in the region. Then, in art class, they learn about the origins of mandalas[54] and they begin to experiment with creating their own designs. They produce drawings and paintings to showcase their work. Back in their agronomy class, they are introduced to the concept of mandala agriculture and asked to adapt their mandala designs to create a mandala agriculture design. They are asked to think about the types of fruits, vegetables, and legumes as well as animals that can be raised and cultivated within this type of system. Finally, at the cooperativism class, several designs are selected and merged to put into practice. The students are asked to choose the elements of each design that they like the best in order to come up with a collective design (field notes).

In each step of the process, the students are encouraged to think creatively and collectively. But beyond that, they are introduced to concepts and given the opportunity to materialize them, putting into practice what they have learned (this is an underlying theme that I observed in my interactions with the MST, they drive the idea of learning how to be a better citizen and putting it into action, that knowledge should be shared and not contained). When asked about the role of the school in the *assentamento*, João commented:

> The school is an important tool within the *assentamento* of initiatives of different ways to produce. They work with the children very early to teach them this, and even with the adults. They have a whole pedagogy developed to help people look at farming in a new way…constructing a new vantage point, one shaped by the principals of agroecology. (Interview #P4)

[54] Mandalas are geometric patterns or diagrams that are meant to represent the cosmos metaphysically or symbolically. They are commonly used in Buddhism and Hinduism.

Illustration 2 *(top)*. Drawings from de agronomy class.
Illustration 3 *(bottom)*. Mandala agriculture design.

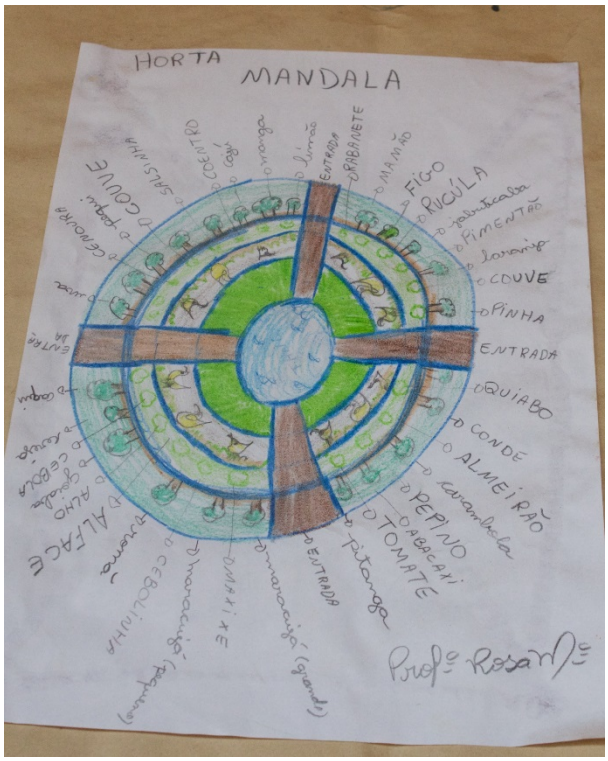

Illustration 4. Mandala agriculture design.

The pedagogic approach at the *assentamento* school is reminiscent of the Freiren model[55] that was implemented in the CEBs. Because of the MST's longstanding partnership with the CPT, it is hardly surprising that their educational model is heavily infused with the approach adopted by the clerics in the CEBs and that the CPT still utilizes until today. The school's regular k-8th grade curriculum and the *Novos Talentos* classes follow the same bottom-up leadership

[55] The Freiren model is based on the pedagogical style of Paulo Freire, a Brazilian educator that argued in the 1960s that the poor must be given the tools for their own liberation through education that promotes the development of grassroots ideas and initiatives (Cavendish 84).

development in which solidarity and cooperation are favored over individual or elitist relationships. Because of the early connections between the Brazilian liberation theologians of the Catholic Church, the CPT, and the landless, it is not surprising to see this as the model being implemented especially because it promotes liberation and collective thinking.

Illustration 5. Implementation of mandala agriculture designs at Assentamento 12 de outubro.

Agro-forestry extractive reserve

At the time of the research, the *assentados* at 12 de Outubro had started to engage in discussions about what to do with an area of about 1,000 hectares that currently stood as a collective forest reserve on the lands of the *assentmento*. One of the ideas that came up was to convert the area into an extractive reserve where they could begin to implement agro-forestry

techniques. This project is to take place in conjunction with two other *assentamentos* in the area. They have agreed to work together, and about 70% of the income generated from this venture will go to benefit community development projects at their *assentamentos* (Josué, Interview #M3). The reserve already holds large amounts of Brazil nut, cashew, and fruit trees. The plan is to implement an agro-forestry management system so that they can cut down some of the trees to sell the lumber, but at the same time plant new trees and extract products from these resources. Their intention is to sell the primary resources and to develop sustainable agroindustry through the sale of the nuts and processing the fruits to sell the pulp. Though they were still at the initial phase of this project, there are many high hopes for how it can benefit the *assentamento*:

> Our objective is to industrialize that, that raw material that already exists and reforest too…for the use of the community. Along with the Brazil nut that we are discussing, we are proposing a fruit-pulping project. Because we are going to be reforesting and so we can organize production so that we can produce fruits that we can extract pulp from. We are going to industrialize that, because by industrializing that, you are able to add value to your product and rural farmers are able to live better. (Josué, Interview #M3)

Illustration 6. Teles Pires River in Sinop; the forested area and the dock depicted in this photograph will be completely flooded by 2016.

Environment

Dam Project

One of the biggest issues that the *assentados* are facing is the impending start of the *Usina Hedréletrica Sinop* (UHE-Sinop or Sinop Usina Hydroelectric Plant) on the Teles Pires River. The dam and the hydroelectric plant have already been built and are set to start operating sometime next year. The *assentamento* itself will be negatively impacted because 29 of its lots will be flooded, which means that the families that occupy those lots will be homeless. Plant officials and INCRA have yet to cooperate effectively with the *assentamento* to determine where the families will go next. Amongst their requests, the *assentados* are asking to be resettled in a location that is comparable to where they live now. Another political organization, MAB (*Movimento dos Atingidos por Barragems*, or Movement for those Affected by Dams) has been accompanying the *assentamento* in this issue, helping organize the community and mediate the interactions with INCRA and the energy cooperation responsible for the hydroelectric project. However, as Marina points out, it has been a difficult struggle because the government and the plant company's primary concern is not the people, but rather the energy that will be generated and the potential subsequent profits. Marina is a MAB activist and she has accompanied the *assentamento* in their struggle to be heard, she says:

> The government wants to build dams, it is part of their development program. We are not against the dams or energy generation; the problem is the way that the dams are built—in an authoritative way, without any dialogue with those affected. The companies that build the dams focus on the profits and also seek to profit by economizing on the compensations [to those affected]. (Interview #P3)

Another MAB activist that has been working very closely with the *assentados* to fight for fair compensation and relocation makes similar comments. He says that:

> For the businessmen the whole project has been progressing really nicely, but for those who are waiting to get compensated and resettled, none of that has happened yet, even though the project is quite advanced…the logic of the energy sector is to reduce their costs. (João, Interview #P5)

Both Marina and João argue that the last concern of the officials and businessmen involved in developing the hydroelectric plant is the people that are being affected. According to both of them, the demands are basic and just:

> What we are asking is that the people affected be relocated fairly. We are not fighting for just land, it has to come with basic conditions: a school, energy, access to a clinic, an initial incentive for the farmers...the necessary means so that people can produce in a different way, without deforesting, respecting the environment, without using agrochemicals. (João, Interview #P4)

For the *assentamento*, the damages related to the UHE-Sinop dam project are concentrated primarily in the land that will be flooded and the subsequent displacement of those 29 families. But the picture is much bleaker for the rest of the state. The UHE-Sinop is only one of several hydroelectric plants that will be operating in the state that will be drawing from the Teles Pires Rivers. The consensus amongst the people that I talked to was that there would be very negative consequences, that "environmental and social tragedies are sadly imminent" (João Interview #P4). The biodiversity of plant and fish species is expected to decline, as well as their overall populations (fish species are expected to decline unless they are able to quickly adapt to their changing ecosystem). On a human scale, fisherman will be impacted directly, as well as *assentados* from other *assentamentos* and people who own *chacras* (cabins) near the river.

Agriculture

The predominant model is *agricultura familiar* or family agriculture in the *assentamento*. Each family has a *sitio* or a plot where they are able to plant and cultivate for their own

consumption or to sell (as is the case for those involved in the cooperative or that sell independently). Some people have rented out their *sitios* for cattle grazing, while others utilize them for their own livestock. Utilizing the agroecological system is highly encouraged and the *assentamento* counts with a few individuals who have been trained and certified in agroecology by the national movement's agronomy school. There are also workshops and classes that occur frequently supported by partner organizations (like CPT, UNEMAT, and Instituto Ouro Verde) that share best practices, like how to make liquid biofertilizers, compost, and design agroforestry and agroecological management systems, among other things (field notes, Interview #M8, #P4, #M11). The MST national movement has a school called Florestan Fernandes in São Paulo, and a research center in Rio Grande do Sul where a few of the individuals from the *assentamento* have spent some time to learning about the different aspects of these alternative agricultural models.

Aside from their *sitios*, most of the families have small *hortas* or gardens around their homes. Table 3 provides a description of the different types of plants that the families grow around their homes and in their plots. Some of the main things that are cultivated are manioc, lettuce, squash, beans, chicken, eggs, and fruits. It also describes the systems that people are using in their plots. I visited the gardens and plots of the each of the informants, but relied on their description of the type of system that they used to classify them. I was very interested in the language and terminology that they used in their articulations of their practices. As can be observed from Table 3, not all of the family farmers practice a form of sustainable agriculture. In fact, nine of the thirteen explicitly said that they practiced agroecology, while four of them indicated that they practiced agroecology (either solely or in conjuction with agroecology), one of them indicated that they only follow a single-crop (monoculture) system, and finally two of

them said that they use a mixed-crop type of system (several crops planted next to each other but without any other inputs like chemical fertilizers or pesticides).

Name	Food grown in the *horta**	Food grown in the *sitio***	System used***	Types of Inputs	Personal consumption or Commercial	Main products sold
Josué	lettuce, argula, cilantro, onions, cherry tomatoes, carrots	chickens, acerola, jabuticaba, pineapple, avocado, brazil nut, cashew, manioc, corn	agroecology	compost, biofertilizers (liquid)	both	eggs, chickens, lettuce
Nelson	onions, peppers, lettuce, limes	cattle, corn	single crop	fertilizer, pesticides	both	cattle
Pedro	onions, papaya, arugula	lettuce, pineapple, manioc, corn, sugarcane, squash, tomato, beans, chickens	agroecology	liquid biofertilizer, compost, manure, biorepellents	both	eggs
Joaquim	lettuce, arugula, onions	banana, dairy cows, passion fruits, jatoba, cashew	agroforestry	none	personal	—
Alexandre	onion, arugula, peppers, chickens	cacao, copo azul, squash, pineapple, banana, manioc, peppers, bees, dairy cow, watermelon, cucumber, acai, coconut palm, tamarindo, Brazil nut, ñame, jenipapo, corn, melon	agroforestry agroecology	compost, biofertilizers (liquid)	both	eggs, chickens, honey, bananas, cheese
Thiago	lettuce, onions, chickens	pineapple, corn, squash, bananas, cows, watermelon, tomato, maxixe, onions, lettuce, orange, papaya, cherry tomato, copo azul	agroforestry agroecology	compost, biorepellents	both	pineapple, squash, eggs
César	chicken	melons, passion fruit, pineapples, guaraná, manioc, tomato	agroecology agroforestry	biofertilizer (liquids)	both	fruit pulps: melon, passion fruit, pineapple
Neuza	peppers, onions, lettuce, cilantro, cherry tomatoes	goat, chickens, pig	mixed-crop	none	personal	—
Diego	orange, manioc, lime, squash, jackfruit, papaya	avocado, tamarindo	agroecology	biofertilizer (liquids), compost, manure	both	squash, manioc, fruit
Carlos	lettuce, cilantro	manioc, vegetables, legumes, sugarcane, potato, squash	agroecology	biofertilizer (liquids), compost, manure	both	manioc, lettuce
Gabriel	lettuce, cilantro, manioc	—	agroecology	biofertilizer (liquids)	personal	—
Miguel	lettuce, oranges, jatoba, cilantro	—	agroecology	biofertilizer (liquids)	personal	—
Maria	lettuce, tomato, cilantro, onion, chicken	pig, manioc, squash, beans	mixed-crop	none	personal	—

Table 3. Summary of Crops Grown at 12 de Outubro by the informants.
*home garden, **farming plot, ***as described by the informant

Illustration 7. Agritoxins poster at one of the outer wall of the school at the Assentamento 12 de outubro.

It was not uncommon to hear people communicate their awareness of the negative impacts of agrochemicals both for the environment, and for their own health. In different places in the *assentamento* (especially in the communal buildings) there were images such as Illustration 7, which establishes a clear connection between the use of agritoxins and health. The sign reads: "Agritoxins Kill. Agrarian Reform Creates Employment and Healthy Food, Agribusiness=Agritoxins." Beyond just establishing the connection with health, it also pushes forward the discussion about the types of practices engaged in by agribusiness to produce their goods. Furthermore, it tries to create an awareness that differentiates the practices supported by the movement at the local, state, and national levels.

The *assentamento* is currently surrounded by soybean plantations, which can potentially have some negative repercussions on the livelihoods of the *assentados*, especially because they do not subscribe to the monoculture system in which those plantations are set up (both in their use of agrochemical and GMO seeds). According to one account, some producers involved in the CANTASOL project have been negatively impacted by the agritoxins that are sprayed on the some of the soybean plantations nearby. One of the student coordinators stated:

> The production of the *assentados* is very affected by the large soy plantations that are located nearby. One producer used to sell passion fruit pulp, at first he cultivated nearly 1,000 boxes of passion fruits, but because of the large quantities of agritoxins the population of bees that used to pollinate dropped and that led to the rapid decline in the production of his plantation. (Daniele, interview #P2)

In general, I observed that the *assentados* work very hard to differentiate themselves from the urban community. Especially when it comes to their interactions with the environment and the kinds of inputs that they utilize in their farms. Those who utilize a small amount of inputs or that utilize environmentally friendly ones, are proud to talk about it and give demonstrations on how they work. For some, this is their first foray into agriculture as adults, coming back to the *campo* after having lived and worked in the city as laborers, mechanics, etc. for most of their lives. I spent several afternoons learning how to make different kinds of liquid biofertilizers and hearing about the best ways to compost, which varied a little amongst different individuals.

Linking the Rural-Urban

Perhaps one of the most interesting aspects of this *assentamento*, is its objective to establish and maintain a strong connection to the urban community in Sinop. There are many ways that the *assentamento* has established connections to the local urban center. The partnerships that they have made with UNEMAT, however, have opened up clear and purposeful

paths to connecting the *assentados* to the inhabitants of Sinop. This opens up the possibility to exchange ideas and practices, and to share frameworks with an extended community. Daniele observes that the CANTASOL project has not only helped to connect the *assentados* to each other (by purchasing from each other the goods that they produce), but that it has also contributed to establishing a connection with people who live in the city of Sinop. For example, one of the most interesting parts of the project itself is how, at least twice per week, the people who purchase the products in the city have some type of interaction with the producers from the *assentamento*.

The classes that are part of the Novo Talentos project also serve as an important link because of the exchange of students and teachers between the *assentamento* and UNEMAT, not to mention the audiovisual materials that are produced and shared amongst the constituents of both groups. These partnerships are foundational in the transformation of preconceptions that the inhabitants of Sinop have in regards to the MST. Furthermore, they are important ways for members of the MST to continue establishing open dialogue and collaboration.

The CANTASOL project has also become a space for dialogue because even the brief interaction with the consumers, information is exchanged about what is going on in the *assentamento* (which can directly impact the project itself). The *assentados* and the university students also utilize this space to tell people in the city about the negative repercussions of the hydroelectric plant, which directly affects them. On one occasion, I was able to witness just that, a conversation that Daniele was having with a few of the consumers about energy generation and its connection with the *assentamento*. She shared that for her it is very important for people to be fully aware about everything that affects their food sources (field notes).

DISCUSSION

This discussion is organized into three main parts. The first is the identification of the main discourses that were observed at 12 de Outubro through the fieldwork. The second part is an analysis of these discourses supported by evidence from the interviews. It includes a set of tables that visually represent the dialogues that aided in the identification of the predominant discourses. Finally, the last part consists of some conclusions that are linked to existing literature.

Throughout the time that I spent at the *assentamento*, per my observations, interviews and conversations that I had with people, I identified four predominant lines of discourse and a few sub-discourses the emerged in response to the questions that I asked my informants (see Table 3). The interview questions centered around three main themes: involvement with the MST, agriculture, and the environment. The four predominant lines of discourse (see Figure 11) were about the relationship between the government and the MST, the importance of alternative agriculture, health and nutrition as an important motivator to engage in alternative agriculture, and the ways the MST are attempting to link their rural community to urban centers.

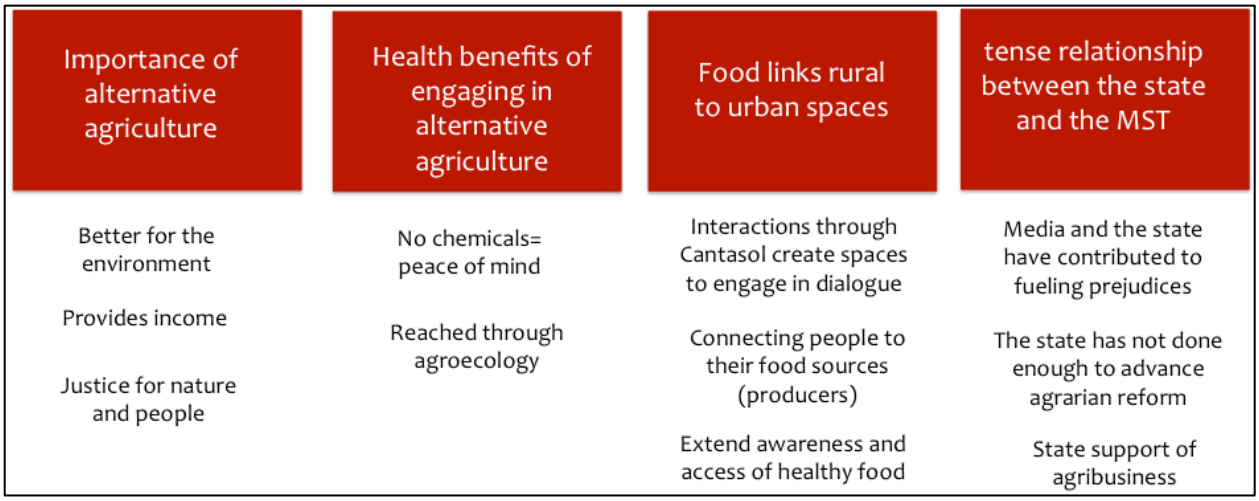

Figure 11. Four predominant lines of discourse.

Table 4. Interview Questions

MST Involvement	Agriculture	Environment

• What is your name? Age?
• Where were you born?
• How long have you lived here?
• How did you become involved in the MST?
• What do you do for a living?
• What is your role in the *assentamento*?
• What does this land represent for you?
• How does the land distribution work here?
• What types of activities are you involved in here?
• How would you describe the MST?
• What do you think about the MST struggle?
• Prior to joining (or supporting) what was your knowledge about the MST?
	• Do you plant any crops at home? If so, what kind?
	• Do you have a farm plot *(sitio)*? If so, what types of activities do you do there?
	  • Raise animals? What kind?
	  • Grow crops? What kinds?
	  • Both?
	• Do you utilize any kinds of inputs, if so, what are they?
	  • Fertilizers?
	  • Pesticides?
	  • Compost/manure?
	• How would you describe the system that you use for agriculture?
	• Do you practice agroecology? If so, for how long?
	• Do you practice agroforestry? If so, for how long?
	• Have you planted differently before? What type of system did you use?
	• If you compared, is an agroecological (or agroforestry) system better, the same, or worse than a single crop or monoculture type? Why?
	• Would you like to learn about and utilize other types of alternative agriculture systems?
		• When you hear the term "environmentalism" what comes to mind, what does that mean to you?
		• When you hear the term "environmentalist" what comes to mind, what does that mean to you?
		• What does conservation mean to you?
		• Is conservation the same thing as protecting the environment?
		• Would you describe your living circumstances as sustainable? If yes, how so?
		• Do you carry out any activities that you would consider as environmental in nature?
		• In your opinion, what should be prioritized, land acquisition or protecting the environment?
		• Would you say you belong to a social, political, or environmental movement (or a combination of that)?
		• Do you believe the state does enough to protect the natural environment?
		• Do you think the state should allocate more resources to: protecting the environment, redistributing land, or both? Why?
		• Given your own definition of "environmentalist" and "environmentalism," would you consider yourself one?

The first discourse was about the role of the government in Brazil, specifically in relation to the MST. Some of the main lines of discussion were in relation to the government's support of agribusiness, its role in shaping a capitalist society, and the ways in which people perceived that it had abandoned them. Both Pedro and Thiago explain:

> Pedro: The government gives millions to agribusiness, to the large landholders, so that in the end they can steal the land, kick out the Indians…but most of all, exploit land that isn't theirs, that belongs to the country. And when the movement or other social movements obtains land, we end up in a state of abandonment because of the lack of implementation of the agrarian reform. The law in Brazil is to expropriate unproductive lands, but people need incentive to live on those lands. So if families are not able to feed themselves, it's not their fault, the government is to blame…It's like this, the political model and the model of society is capitalist, and since capitalism focuses on profits, the project or model of the government is agribusiness—that's not an objective to preserve the environment it's one to destroy culture. The focus is to produce a lot to sell it in large scale, to have high profits. And the model of Brazilian production is exactly that, of a capitalist system, of agribusiness. So they took control of the majority of the land, deforested everything they wanted to, great. But there is a huge contradiction here, even though they are the owners of 90% of the land (let's suppose that), they produce much less food than we do, the small family farmers. Because according to IMBISA, 70% of the food that ends up on the tables of our people comes from family agriculture, of small producers. So, here you see the contradiction. In other words, agribusiness only works for one thing, to enrich that minority that has concentrated the majority of the land in their hands. (interview #M5)

> Thiago: I think like this, the model of our society is who makes the institutions function like they do. For example, the Brazilian state is the same thing as the president. You go and vote for this or that person thinking that they will be the best to be in the position to direct the country. But it's the same thing as a limousine—the Brazilian state is the limousine and the driver is the president, in other words, the driver is the government. But who is really directing that limousine—if it goes forward, backward, to the right, to the left—are the people sitting inside of it. And who are they? It is the elite class, the owners of the limousine itself. The model of the Brazilian society is like that, it's basically a limousine that is the capitalist system, the capitalist system that is controlled and profited the most by the biggest businessmen of the world. So it's like this. INCRA, the institution in charge of agrarian reform, is at the service of the state, and the state is at the service of agribusiness. So, it's not INCRA that is the problem, it is the model of the society that concentrates the power. The powerful come, grab all of our lands that would be good for production, and evict the indigenous, communities and destroy the environment. But we need that land because the land belongs to the people. (interview #M8)

The second discourse that I identified was about the social, economic, and environmental importance of engaging in sustainable alternative forms of agriculture. There was discussion about agroecological farming as the solution to live with dignity, Josué says:

> …and we want to preserve the environment, but with the objective of food sovereignty. So that people are able to feed themselves, survive easily, and so that they are able to easily live with dignity inside of the *assentamento*. (interview #M2)

Conversations about the environment came up frequently, especially in connection to the environmental value of alternative agriculture. Josué stated, "we want to preserve the environment, but with the objective of food sovereignty" (interview #M2). He goes on to say that:

> If in this *assentamento* we didn't have a notion of environmental conservation, of preserving the land…the air that you breath, the water, potable water, of recovering and protecting everything that exists, for us, an agrarian reform does not have any meaning if it does not have those objectives. (interview #M2)

Other *assentados* commented on some of the changes that they have noticed in the environment since they started implementing alternative agriculture. Aside from recovering springs, Joaquim observed that some bird and mammal species have begun to reappear in larger numbers:

> Since we started planting different and using agroforestry, I noticed that different animals that I hadn't seen for a long time started to come back, especially many different kinds of birds. (interview #M6)

On the other hand, there were a couple of people like Alexandre who did not directly articulate their environmental views but indicated that they practiced alternative agriculture for its practicality. When asked if he had environmental views he answered:

> I am not a studied person, I don't think I'm an environmentalist. But sometimes people come here to do exchanges once a year, especially students, and they tell me, "sir are you an environmentalist?" I don't think I am, I just do what I can, I do my part I guess. (interview #M7)

On a similar note, when asked what type of agricultural system that he used Thiago said that he used agroforestry. When asked if one system was better than the other (low diversity vs high diversity) in terms of production, he said that they both performed just as well. He got very similar amount of production from the crops he grew in the forest (interview #m6). This was a pattern amongst several of the informants that were family farmers, the majority stated that though the implementation of agroecology or agroforestry is sometimes more slow, the variety of products, as well as their quality is much higher—"it doesn't even compare!" said one informant (Carlos, interview #M11). In general, they agreed that they now preferred to use a system that aligns more closely with nature's model. Josué, Diego, and César all comment on this, especially on the benefits of implementing such a system with limited resources:

> Josué: I believe that you actually are able to get more out of the land through agroecology. First of all because monoculture for a small farmer does not work, does not bring a profit. Let's suppose that I am going to take a piece of land and only plant beans or only corn there, it doesn't work. First of all, it's against our principles, and secondly a small plot of land needs to have a varied production, especially so that you are able to survive. To only plant one thing you need a lot of inputs that are expensive, so for a small farmer, it doesn't work. (#M3)

> Diego: I think that agroecology is better because we are able to get more out of the land. The space is small, we don't have large areas to grow so we have to take maximum advantage of the space we do have. We have to imitate the Japanese! (#M12)

> César: Within a small area, if you work in a conscious way, you can even produce the same quantity of food that a *fazenda* produces. So, it's a question of whether you want to focus your work in a more sensible way, more consistent with you thinking. (#M9)

MAB has accompanied the *assentamento* in its journey to explore the implementation of alternative forms of agriculture, encouraging the initiatives and supporting whenever possible. João states:

> We believe that agroecology is often a new way of looking at agriculture for the *assentamento*, but it connects people to the understanding that it's not just about people respecting the environment, but also about people having a different relationship with each other. (interview #P4)

Similarly, Daniele observes how family farming and the Cantasol project have not only encouraged a changing relationship amongst the *assentados*, but it has also given them another medium through which to increase their family's income. She says:

> Some of the biggest changes with the producers is in their family's income. You can see their happiness when there are able to purchase some goods [from the money that make], but there is also the interaction amongst the residents of the *assentamento.* Before, many would come all the way to the city to buy goods, the same goods that another resident was already producing in the *assentamento*, but they didn't know. (interview #P2)

Several *assentados* agreed that they are greatly motivated by the increased economic activity through their participation in sustainable agriculture and the cooperative. Working together has allowed them to support family farming and has given them access to a larger market, something that is incredibly difficult to accomplish as an individual farmer. César says:

> Of the benefits as a producer is that before one of the biggest difficulties was to work individually. So we worked individually, commercialized our products individually, and that was a big problem. If you produce and work together in the form of an association, in a community, it brings many more benefits. For the producers, if one produces a little bit of this or that, all of a sudden with many more people you have a larger quantity of product…I used to work individually and it was very difficult. If I took one kilo of tomatoes to the store, they didn't want to buy it because they could buy in much larger quantities from the warehouses that ship from São Paulo. So I ended up partnering with another colleague who was doing the same thing as me. We combined our products to get higher quantities, we had to commercialize, but it was a lot of work because aside from all of that we were also growing our products. (interview #M9)

A third line of discourse was the importance of health and nutrition in the logic of implementation of alternative agriculture**.** Aside from the income that they are able to generate from sustainable agriculture, several informants pointed specifically to their awareness between health and the types of inputs utilized in agriculture, and that for them, their health and that of their family's and their consumers was a source of pride and motivation. César, Carlos, and Diego explain:

> Another benefit is that even if you produce very little, you are conscious that the benefit is very big because you are respecting the environment, you produce and you are able to sell. For example, the tomato that I bring here [to the cooperative] I know exactly how it was produced. So, I have the enormous satisfaction to be able to tell that to the person who consumes it. So you add value to the process and how your work is viewed by others as well. I am a consumer too, so maybe even for that reason alone I have changed my line of thinking. When I go to the supermarket I try to buy as little as possible, especially of heavily industrialized products. So, it would be great if we were able to produce everything on the farm, you know, because you know and you can see what you are consuming. Because, what is food? Food is health, if you are not going to consume health then you have to go to the hospital. But if you produce health at home, if you consume it, you don't need to go to the hospital so much…So if I produce something good and I rest my head on my pillow at night to go to sleep, I sleep with tranquility…I believe that the biggest wealth lies in the ability to produce something that brings health, that you know your children won't need as many antibiotics, analgesics, etc. (#M9)
>
> Carlos: Growing food in an agroecological way is much better! We don't have the danger of contaminating our families or our clients that buy our products. You can go over there [the plot], wash a carrot and eat it right away without a problem. Now, the kind that you buy at the supermarket, those could even be dangerous, you know? (#M11)
>
> Diego: Perhaps the process is a little slower and the effect of the liquid biofertilizers is not exactly the same as the chemical ones, but you have the result of a healthy product. It doesn't contain any kinds of poisons, so you are able to eat it tranquilly, without a problem at all. (#M12)

Finally, the fourth discourse that I identified was the ways in which the movement was linking the rural and urban spaces. There was discussion about how increased opportunities for interaction can help change the preconceptions that people have of members of the MST.

Daniele pointed out that before she got involved with the Cantasol cooperative project, she had never been exposed to the MST very much other than the comments she heard from her uncles:

> I didn't really understand what the movement was, or what kind of work they do because I didn't have very much proximity to them because my uncles were always very prejudiced against them. After I met them and started working my admiration became very big. I managed to change the mind of many of them. Here in Brazil that organization suffers a lot from prejudice. And after, when I began to wear the MST shirt, I felt in my own skin what they go through on a daily basis—at the university, on the street. That day at the fair, people stopped to buy things, but when they saw the flag of the movement they did not like that very much. (interview #p2)

Important here is that she points out her own preconceptions of the movement influenced by her family, and her own observations of the way other people view the movement once she was involved. Her awareness about this has increased substantially. For Daniele's colleague Paulo, the experience was very similar. Before getting involved in the project, he only knew about the MST from what he had been exposed through the media, and according to him, the majority of it was not positive. Josué also addressed the challenge of breaking past the prejudices against the MST, especially given the ways they are represented in the media. He shared an experience that he had that exemplifies this:

> The MST, you will only get to know the MST if you enter in it, if you live inside of it, follow it. You will not see anything good about the movement through the television. So, once I was waiting for some comrades in Cláudia in a snack bar and on the television there was a politician that was talking about the MST. So then, the owner of the snack bar—at first he did not know who we were—said, "those people from the MST only want to get land so that they can sell it. The police and the government need to put an end to this MST!" So then we intervened, and I said, "well, we are from the MST and we are not trying to get land to sell it. You talk about the MST because you see others talk, but you don't know the MST. It would be the same as if I would come here and start talking about your family without even knowing them. That is a prejudice. And we don't want you to look at the MST with a poetic vision—neither with a poetic vision nor a prejudiced vision—we want you to look at our society with a critical vision…this vision that you have is prejudiced, it is erroneous. You see [what's on the television] but you don't even know, and you have formed an opinion. If you want to understand the MST, you need to live in it or research it. And in order to research it, you have live inside of it.

> If you want to research the movement through the media, you will only hear negative things." (interview #M1)

Yet, it was precisely Josué who was one of the most excited about the opportunity to begin to tear down some of these wrong preconceptions that people had of them through projects like Cantasol. The exposure of the cooperative and the agriculture fair he hoped would allow people to see past the ways that the MST have been portrayed in the media and instead see what they are accomplishing, he said:

> I am very excited about the fair…it is going to be an important stage for us, for our struggle for the agrarian reform. It's going to favor us a lot. (interview #M3)

This is something that four other informants also commented on, the importance of the fair to demonstrate the positive things that they are accomplishing, to get the chance to show the reality of the *assentamento*. Through this agricultural fair and other interactions, they also discussed how linking the urban and rural spaces can help introduce more people to the concept of food sovereignty and communicate the importance of making people aware to the fact that access to healthy food is not just an issue for marginalized communities, but a challenge that everyone faces. Josué says:

> If we are able to continue working with this agroecological project, it is going to help us a lot in our struggle for the agrarian reform. We are going to win over the sympathy of people. Because it's like this you see, for example, no one wants to eat food that has poison—nobody. In any place, in the rural areas or in the city you can go and ask, "would you like a product like lettuce or potatoes, with or without poison?" Everyone would say without poison, right? So, if you are able, beyond just telling the person that that product does not have poison, tell them that that product is agroecological, that it's contributing to protecting the environment, that you have that product in your hand without having offended in any way the land or the environment, then certainly we will gain more support from society. (interview #M3)

There were a few sub-discourses that did not quite follow the previously discussed discourses, which highlight how differences in an individual's values can impact their subscription to a collective group agenda. There were individuals that I interviewed that were not interested in engaging in alternative forms of agriculture. Instead, they viewed acquiring land as an opportunity to improve the quality of their lives. This meant by making as much profit as possible by raising cattle for example (field notes). When asked what he planned on doing with his *sitio*, another individual also indicated he wanted to raise cattle so that he could make more money to sustain his family (field notes). In the end, these responses reveal that it's about individual choices—what are the choices that people are able to make about what they plant and how they make their livelihood? What are things that they are *able* to negotiate with?

For Josué, this dilemma is deeply rooted; he believes that it is more of a cultural problem. If the culture that you live in promotes consumption, then you will be motivated to increase your production so that you make more money. If you know that you can produce four times as much if you add inputs, it's a hard choice to make to accept your yield to only be one-fourth of that. César also says that if we only have to worry about living within our means, then it is easier to focus on the health and environmental aspect.

João also addressed the challenges of implementing alternative agricultural methods, especially because for many, it proves hard to believe or sounds like too much work, and because society has been cultured to think almost the opposite of protecting nature, and instead looking at how to profit from raw materials. He says:

> Look, it's not easy to get people to want to do things differently, not at all. Especially because it's been ingrained in the minds of some farmers, they learned how to produce that way [intensive, high-input], especially in this region of Mato Grosso those who deforested were the most were rewarded. At first that's how it was, especially during the period of colonization, your land would be where you deforested. And after that came that whole process of producing food by utilizing poisons. So, there is still a big myth in

the head of farmers that it is not possible to produce without utilizing poison—it's very strong. What we have tried to do is to build first, because our people they are very much about seeing to believe…so it is necessary to demonstrate in practice that you can use a liquid biofertilizers, for example, biorepellents and that you can have a good yield, sometimes even higher, than by utilizing agrochemicals. And there are some projects and initiatives that are doing this, then people begin to look and start paying attention, but it's such a complicated thing. (interview #P3)

Table 5. Reasons for Practicing Alternative Agriculture

Themes	Sample Interview Excerpt	Frequency of Responses
Health	"Food is health, if you are not going to consume health, then you have to go to the hospital." "Growing food in an agroecological way is much better! We don't have the danger of contaminating our families or our clients that buy our products." "…you have the result of a healthy product. It doesn't contain any kinds of poisons, so you are able to eat it tranquilly, without a problem at all." "no one wants to eat food with poison, no one."	6
Better for the environment	"because of the large quantities of agritoxins [of a nearby soy plantation] the population of bees that used to pollinate dropped…" "Since we started planting different and using agroforestry, I noticed that different animals that I hadn't seen for a long time started to come back, especially many different kinds of birds." "…even if you produce very little, you are conscious that the benefit is very big because you are respecting the environment." "To preserve the environment, we have to produce agroecologically."	8
Because its practical	"To only plant one thing you need a lot of inputs that are expensive, so for a small farmer, it [monoculture] doesn't work." "I like this system because it's more simple, just straightforward you know?"	3
Because it's more productive	"it doesn't even compare [with other systems]!" "I believe you actually are able to get more out the land through agroecology." "I think agroecology is better because we are able to get more out the land." "Within a small area, if you work in a conscious way, you can even produce the same quantity of food that a *fazenda* produces." "…you can use a liquid biofertilizers, for example, biorepellents and that you can have a good yield, sometimes even higher, than by utilizing agrochemicals."	8
To generate income	"some of the biggest changes with the producers is in their family income." "I think some people are willing to pay a good price for food they know is organic…it takes more time but I am able to earn money this way." "…before coming here, I worked as a mechanic in the city, now I have a different way to have an income that connects me to the land."	4
It builds community relationships	"it [agroecology] connects people to the understanding that its not just about people respective the environment, but also about people having a different relationship with each other." "Before, many would come all the way to the city to buy goods, the same goods that another resident was already producing in the *assentamento*…" "If you produce and work together in the form of an association, in a community, it [family farming] brings more benefits…I used to work individually and it was very difficult."	5
It connects different parts of society	"I'm very excited about the [agriculture] fair…it is going to be an important stage for us, for our struggle for the agrarian reform." "[if you tell someone] that product is agroecological, that it's contributing to protecting the environment, that you have that product in your hand without having offended in any way the land or the environment, then certainly we will gain more support from society." "Now people from the city [Sinop] get to know us by the food we produce." "Everyday Cantasol is implementing more and more agroecological production so that we can demonstrate to the rest of society it works." "this process connects the consumers to those who produce. So in reality, it's like if everyone is a family--everyone works, everyone eats, and we all get to know each other."	7
justice	"agroecology is an important tool to promote environmental justice…because it defends the responsible use of resources." "…by growing food in a more conscious way, we are promoting justice for nature." "agroforesty and agroforestry are the same thing as environmental justice because we are respecting nature and restoring it." "many injustices to people happened as a result of injustice to nature, so planting like this helps us work on both problems…"	6
to reach a better agrarian reform	"our objective is an differentiated agrarian reform, within the framework of agroecology, to produce a variety of foods for society…that is how we will reach agrarian reform." "the only way that people will see that agrarian reform works is if we take care of the environment by cultivating differently." "alternative agriculture is an instrument to reach agrarian reform."	4

Table 6. Environmental Awareness and the MST

Themes	Sample Interview Excerpt	Frequency of Responses
Relationship with the environment	"When we talk about living sustainably here, we mean living in harmony with the land, with the environment." "The environment needs human beings to survive, but we need the environment to live. In other words, we are a limb of a large body that is the environment…try ripping a limb off of your body to see if it will survive on its own. Your body is going to suffer and your limb will die." "When we destroy, when we don't preserve the environment, we are destroying ourselves." "it's hard to separate the landless struggle from the environment. We need the land to survive, and the land needs responsible caretaking for it to be protected as well. So the struggle is one and the same."	6
Environmentalists are people who study	"I am not a studied person, I don't think I'm an environmentalist…I don't think I am, I just do what I can, I do my part I guess." "When I think about an environmentalist, I think about someone who studies and engages in projects to protect the environment." "Look, I don't think I am an environmentalist, but I think we are helping and advising their work." "I really like people who study for that and work in that area, I get excited and I support it!"	5
food sovereignty	"…we want to preserve the environment, but with the objective of food sovereignty. So that people are able to feed themselves, survive…" "We believe in trying to reach food sovereignty, which means we have to consider the environment too."	3
The model used by agribusiness has negative environmental impacts	"agribusiness is the same as agritoxins" "they [agribusiness] plants with large quantities of agritoxins, destroying the ozone layer, destroying the environment, causing cancer." "we are surrounded by agribusiness and there are few alternatives that are presented to replace that harmful system." "agribusiness only cares about making profits, so they deforest and spray the fields with many chemicals that are bad for the people and the environment."	6
Environmental conservation needs to consider the basic needs of people	"there are projects that focus on environmental conservation…but are they sustainable for those that will be in charge of conserving it?" "if a person does not have the means to survive, there is no use to talk to them about conservation…conservation needs to accompany considerations for people." "There exists many groups…that develop environmental conservation projects and leave the community in charge of them like gardeners or caretakers of that project, but the community doesn't receive any benefit from that." " [environmentalists want] to preserve, but we depend on the forest to survive…my survival has to come into the discussion, it should be a priority." "Even though we do our part it will never be like they [environmentalists] want to it be. Because if it were for them, everything would be intact forest, but we need to plant too."	6
Agrarian reform and environmental conservation are connected	"If in this *assentamento* we didn't have a notion of environmental conservation, of preserving the land…an agrarian reform does not have any meaning if it does not have those objectives." "we have several courses and trainings…that educate the people to preserve nature and produce agroecologically, that is what our agrarian reform is like." "How can we give a good example of agrarian reform if we don't preserve the environment?"	4
We engage in environmental activities	"We avoid burning the forest in order to preserve it." "We organized ourselves to stop outsiders from coming in and cutting down the trees." "We replant native trees…and we have been recovering natural springs." "today we are in the process of trying to recover everything [the environment] that was damaged ." "Today many people are aware that it's important to plant trees, to recover springs…" "We want to help the soil recover, put organic material on it."	7
We are environmentalists too	"we develop environmental work here, especially because of the practice of agroecology and the proposals to protect the forest." "I consider myself an environmentalist too, of course! Because when you have the will to consider the environment, then you walk along the same path." "It's not a lot that we do here, but we do our part! If we all did a bit more to help the environment, then we'd be better off, but for many years now we've been trying to do a little bit here." "I am an environmentalist too. I think that we shouldn't just think of environmentalists as people who spend their whole day in the trees." "I want to leave for my children the same that things that I used to see in the past, because in this area there used to be more forest, so I guess working towards that makes me an environmentalist."	8
Injustice for people and the environment are connected	"Have you ever seen an *assentamento* that's on a reserve? If they existed, they [the government] would never accept that the landless stayed there. Landless cannot stay in an area of preservation, they won't accept, they kick them out. But, there are many *fazendeiro*s that live in preservation areas. They shouldn't be, but they are there." "the land has been degraded by agribusiness without any replenishment, that is an injustice to nature!" "often the responsibility of recovering all that that was taken advantage of falls in the hands of the landless." "so many times we are given land that is already degraded, land that was taken advantage of and stepped on, just like the landless have been for a long time."	5

Table 7. Challenges Faced by the MST in Brazil

Themes	Sample Interview Excerpts	Frequency of Responses
We live in a capitalist society	"…it's not INCRA that is the problem, it is the model of the society that concentrates the power." "What happens here in Brazil, for example here in Mato Grosso, is that we have a very extractive culture. Why extractive culture? Because they extract everything that exists--gold, wood, fish, seeds, etc." "…the political model and the model of society is capitalist, and since capitalism focuses on profits, the project or model of the government is agribusiness--that's not an objective to preserve the environment, it's one to destroy culture." "our culture is the fruit of a capitalist system, in which everything is merchandise--including human beings." "the model of society is capitalist, prejudice, machista, individualist, of immediacy." "perhaps a small fraction of the Brazilian middle class sympathizes with our cause…even less worries about the environment."	9
The state does not support the movement	"And when the movement [the MST] or other social movements obtains land, we end up in a state of abandonment…from the state." "We are here in a state of abandonment." "I don't see programs to help us live more sustainably." "some *assentamentos* were designed to fail, they were far away from the city, in the worst lands--the most degraded, because everything that was there had been exploited and never replaced by the landowner or agribusiness." "the objective of the government was to transfer the people from the urban *favela* to a rural *favela*."	5
The government doesn't do enough for the agrarian reform	"We need the federal government to guide the agrarian reform…as one of the societal development projects, because if the government isn't guiding this, then it falls out of the priorities of importance of society." "in the model of the government there is no space for family agriculture. The agrarian reform is not guided or prioritized." "the government spends more time worrying about supporting big business instead of taking care of the agrarian reform." "it's been a long time since the state has followed through as it should with agrarian reform."	5
The state supports big business	"for the businessmen the whole project has been progressing really nicely, but for those who are waiting to get compensated and resettled, none of that has happened yet." "the government gives millions to agribusiness, to the large landholders, so that in the end they can….exploit the land." "…the model of Brazilian production is exactly that, of a capitalist system, of agribusiness.." "The model of the Brazilian society is like that, it's basically a limousine that is the capitalist system, the capitalist system that is controlled and profited the most by the biggest businessmen of the world."	6
Agribusiness is not the answer	"agribusiness only works for the one thing, to enrich that minority that has concentrated the majority of the land in their hands." "agribusiness is capitalism…this agrarian reform is a project that is against agribusiness, it is a rupture with agribusiness." "agribusiness has many negative effects for people and the environment." "is agribusiness really helping the masses? In my opinion, it's only concentrated the land and money in fewer hands." "to change society we need to steer away from the agribusiness model." "we need to grow food to sustain people, not put more and more money in the pockets of the agribusiness."	9
Society has incomplete and prejudiced ideas of who we are	"I didn't have very much proximity to them [the MST] because my uncles were always very prejudiced against them." "That day at the fair, people stopped to buy things, but when they saw the flag of the movement they did not like that very much." "If you want to research the movement through the media, you will only hear negative things." "when the MST blocks the road, no one, especially the television will explain why. They will say that we are a bunch of vandals, vagabonds that are blocking progress, that's how the media and the elite talk about us." "the media, which is dominated/controlled by the higher classes, systematically demonized the MST…distorting the facts.."	7
Brazilian education favors individualism	"…the Brazilian pedagogic system is to favor individualism, separation." "a professor told me that we needed to study to be doctors or lawyers…why does a construction worker have less value in society than a lawyer? I think the capitalist orientated education system is to blame." "we need an education system that makes people think collectively, not just about their individual benefits."	4
MST education favors collectivism	"…here at this school we want to build critical citizens...we want them [the students] to learn how to think collectively and make decisions collectively…" "they [the students] take pictures, do interviews...the idea of them working in that perspective is to build critical citizens and that they be the writers of their own story." "The school is an important tool within the *assentamento* of initiatives of different ways to produce…they have a whole pedagogy developed to help people look at farming in a new way…" "the movement is focused on developing agroecology." "the movement does studies about agroecology and shares information nationally." "we have several courses and trainings…that educate the people to preserve nature and produce agroecologically."	8

Connections to the literature

After conducting an analysis of environmental discourses of the 20th century, Hannigan's typology (2006), identifies three key discourses: Arcadian, ecosystem, and environmental justice. He defines the Arcadian discourse as a "poetic discourse" that reached its height in the 1970s (39). The Ecosystem discourse is scientifically oriented, centered on the principles of ecology (42). The Environmental justice discourse consists of "a set of claims concerning toxic contamination in terms of the 'civil rights' of those affected rather than in terms of the 'rights of nature'" (47). Table 8 draws from this typology developed by Hannigan, with only the slight adaptation of highlighting the area where I believe the four predominant discourses identified earlier in this discussion (relationship between the government and the MST, the importance of alternative agriculture, health and nutrition as an important motivator to engage in alternative agriculture, and the ways the MST are attempting to link their rural community to urban centers) most closely fit. The overarching rationale for the defense of the environment adopted by members of 12 de Outubro is based on environmental justice.

	Discourse		
	Arcadian	*Ecosystem*	*Justice*
Rationale for defense of environment	Nature has priceless aesthetic and spiritual value	Human interference in biotic communities upsets the balance of nature	All citizens have a basic right to live and work in a healthy environment
Iconic books	My First Summer in the Sierra	Silent Spring A Sand Country Almanac	Dumping in Dixie
Primary nesting place	Back to nature movement	Biological science	Black churches
Key alliance/fusion	Preservationists and conservationists	Ecology and ethics	Civil rights and grassroots environmentalism

Table 8. Hannigan's typology of key environmental discourses of the 20th century (2006).

Furthermore, taking into consideration Hannigan's (2006) discussion about discourses as being interrelated sets of "storylines" that have the triple mission of creating meanings and validating action, mobilizing action, and defining alternatives, I am going to discuss how the experience with the MST at 12 de Outubro fit within this framework. First, I believe that in their definitions of environmentalism and alternative agriculture, the community is engaging in creating meanings and validating action. They are evaluating what works and what does not, what needs to be done in order to live more sustainably and promote a healthier, more fraternal relationship with the environment while meeting the nutritional needs of the community. Secondly, in their adoption (and promotion) of alternative agriculture practices, and through the establishment of COOPERVIA and CANTASOL, the community was engaging in mobilizing action. They created spaces where they could bring issues around food, the environment, and agriculture to the forefront and take action to effect local change. Finally, in their articulations of the relationship between agricultural and environmental values, the members of the MST at 12 de Outubro are defining alternatives. They are actively participating in a process of redefining what it means to be a family farmer, providing examples of how to interact with the environment in a sustainable way, and justifying these definitions.

In conclusion, an analysis of the four predominant discourses reveals the importance of food as a medium to address social and environmental injustice, both in the access of food (creating opportunities to have access to organic food) and in the cultivation of it (through alternative agricultural that aligns more closely to nature's own processes).

CHAPTER 4: CONCLUSION

> Liberation is a praxis: the action and reflection of men and women upon their world in order to transform it.
> (Paulo Freire)

This chapter is organized into two main parts. The first is a conclusion of the findings of this research, which places emphasis on drawing connections with the literature reviewed in Chapter 1. It will consider the questions that motivated the research and compare them with the research findings. It will also highlight some discrepancies in the data and analyze the shortcomings of this research. The second part consists of an exploration of the areas where this thesis could be expanded on with a suggestion for future research.

This thesis aimed to explore the intersections among environmental discourses, agriculture, and rural social movements to understand food sovereignty in practice. Specifically, it aimed to answer the following questions:

1. What are the environmental discourses of the MST (if any) and what are the activities taking place in specific locales that can inform observations of 'food sovereignty' practices?
2. What do these discourses and activities speak of in terms of the MST movement as a whole? Are there trends about food sovereignty in practice that prove or depart from previous observations done by other researchers?

My observations and interviews revealed the different mechanisms taking place at 12 de Outubro that informed ideas and practices about food sovereignty in the *assentamento*. Like Holt-Giménez and Wittman, I observed the connections between agrarian citizenship and alternative agricultural models. What was missing from both of their studies that I hoped to

explore was a discussion about the ways in which MST members articulate and negotiate environmental values in their day-to-day lives. For example, what types of activities do they engage in that support their redefinitions of agrarian citizenship and stewardship, and what is the role of the environment in this? Do they engage in environmental discourses to justify their integration of alternative agricultural models, or is food sovereignty solely at the center of the framework? How often do people articulate the connection between the environment and food sovereignty? I hypothesized that in practice, the notion of food sovereignty is understood and interpreted in different ways by each individual who subscribes to it.

One of the ways that I was able to gain some insight on this was by asking my informants questions related specifically to the environment and agriculture, asking them to define their understanding of some terminology, and to describe the activities that they engage in on a daily basis. This revealed a strong identification with the agroecology and agroforestry terminology, but little identification to food sovereignty itself. It also pointed to an awareness of the connections between the environment and agriculture, in particular, a sense of responsibility to replenish the land and cultivate it using alternative agricultural methods for longevity. While some individuals strongly identified with environmentalist views, others markedly identified with family agriculture for health, economic, or social reasons. As I hypothesized, these interpretations make the concept more fluid and dynamic. Because several tenets define it, individuals latch on to the freedom to subscribe to specific ideals that appeal to them personally (if they even have a grasp of what it means at all). My observations concluded that in practice, 12 de Outubro has established many of the basic mechanisms necessary to reach food sovereignty, even though individuals are not identifying with them directly. Some of these

mechanisms were the community partnerships, the practice and promotion of alternative agriculture, and the cooperative and CANTASOL project that institute solidarity trade.

More generally, I hypothesized that by adopting a food sovereignty stance, the MST has begun a process of transforming itself as not just merely a socio-political movement, but an environmental-socio-political force in Brazil. There were several indicators of this, but nothing conclusive. Among them, the literature produced by the movement, especially materials that I found in their website and in their different social media sites. But perhaps the most important, and that which I had the most contact with, were the dialogues from the interviews in which individuals often pointed to the importance of combining the environmental, social, and political spheres. Especially when individuals communicated that their fight for land and agrarian reform was inseparable to environmental causes because they depend on the environment for survival. Of special consideration were also the dialogues of individuals indicating that because of this understanding, they have become more aware of environmental issues. Though not often communicated clearly, there were some indications of an awareness that at the very least, the MST was not a movement that solely focused on agrarian reform, but rather, that it was including discussions of food and the environment as centerpieces to their objectives.

I found that my experience at 12 de Outubro resembled more closely Gardner's study (2005) in which she states that, "Activists were not just messengers linking social and ecological problems; they were also spokespersons advocating integrative social and ecological solutions" (71). Like the activists from Gardner's study, the MST members that I interviewed and observed, linked social and ecological problems—they were "spokespersons advocating integrative social and ecological solutions" (71). This is exemplified by a statement by a collaborator and active supporter of the *assentamento*:

> For us there is no way to separate, to differentiate between environmental and social struggles, they come together—they have to come together. When you think about a settlement or resettlement, you have to think about agroecology—respecting the environment, respecting people. (João, Interview #P3)

The common line in their discourses was the importance of utilizing alternative sustainable agriculture as a means to reach a more dignified form of life, which is one of the basic tenets of food sovereignty. A secondary connection is made to the importance of that in relation to the environment and people. As previously mentioned, curiously very few people actually articulated the language or terminology of food sovereignty itself. People much more readily expressed their support or practice of agroecology or agroforestry, but rarely directly articulated its connection to foreign food sovereignty, or expressed knowledge of that concept.

Another connection to the literature that resonated in this experience was the ways in which food sovereignty can serve as a bridge to connect different communities, as acknowledged by Wittman et al. who say that, "Food sovereignty networks seek ways to protect and link local food systems to urban consumers, who increasingly recognize and demand access to local food" (6). The CANTASOL project is a poster child for this, both in its objectives and in the increased interactions between the people who live in Sinop and the *assentados*. But beyond that, by providing urban consumers access to locally-grown foods, these *assentados* are not just linking their food systems, but they are also extending conversations about food sovereignty into the urban sphere. In the process, they are hoping to change the perceptions that people have of them in order to facilitate continued dialogue and collaboration.

In conclusion, I argue that through the examples of the mechanisms presented in this study, members of the MST at 12 de Outubro are directly and indirectly pushing forth a discussion about food as a mechanism to address social and environmental injustice. They are

accomplishing this through their day-to-day-activities, especially in their promotion of alternative agriculture like agroecology and agroforestry, as a means to protect an environment that has been exploited before and working towards food sovereignty. Most importantly, they are accomplishing this by connecting injustices to people (lack of services, exploitation, land to grow food) to the environment. Both of these ideas culminate in the CANTASOL project and in the classes at the *assentamento* school. By growing healthy food sustainably and establishing cooperative programs that benefit the entire community, they are achieving their desire for land to fulfill its social function, thus demonstrating that their struggle for access to land is not just for individual, but rather, for collective benefit.

Finally, the *assentados* at 12 de Outubro believe that they are extending awareness about food justice into the urban sphere through CANTASOL, voicing that access to organic food is not a cause just of marginalized peoples, but for all of society to discuss and work towards, effectively communicating that *"não é apenas sobre nós"/* "it's not just about us." This was best exemplified in the common line in their discourses: the importance of utilizing alternative sustainable agriculture as a means to reach a more dignified form of life, which is one of the basic tenets of food sovereignty.

FURTHER RESEARCH

While this study contributes to broaden food sovereignty scholarship, there were several areas where it fell short and where further research could explore in more depth. There were several mentions of the ways in which the relationships of the *assentados* to the larger urban community are changing, as well as how the relationships amongst the *assentados* at 12 de Outubro are changing too. This observation was made by both *assentados* and by supporters.

Another area where I think that more work could have been done is in doing a more complete survey of the *assentamento* itself. Because of time constraints, travel, and other activities I did not get a chance to visit all of the plots to collect information about what they were growing and how. What I present in this research is only a small sample, and perhaps it is not representative of the entire community. I suggest that a multi-layered analysis to discover associations and articulations of food sovereignty should be conducted, one that carefully analyses national subscriptions, local subscriptions, social media, and MST-produced literature.

One of the shortcomings in particular of this research was in the lack of adequate exploration of the concept of food sovereignty amongst the *assentados*. As mentioned previously, while some clearly articulated knowledge of this framework, the majority did not. It is possible that the questions that were asked did not adequately assess knowledge of this framework nor did they do a good job of opening a discussion about it. Another possible explanation for the lack of information on this is that there might very well be few people who are aware of the MST's association with this framework. That is to say, at the national level the movement links itself to food sovereignty, but perhaps there has not been enough articulation of that. This too could be another area that would merit further research.

Another lies in the statement given by one of the students that supports the Cantasol project. He stated that a piece of literature developed between the SISCOS in Alta Floresta in conjunction with the CANTASOL project reveals that without the support of an external organization, community-based initiatives like themselves would likely fail in the long-term. In the case of the SISCOS project it is the Instituto Ouro Verde NGO, and in the case of CANTASOL it would be UNEMAT. Is this really the case? There has been research to support the often integral roles that external organizations can play in the development and management

of community-based initiatives. However, I believe that more research needs to be done in this area. A complete regional study of community-based initiatives that surveys their sources of external and internal support (administrative, financial, operational, etc.), as well as an evaluation of their long-term viability could provide more insight into this issue. What are the mechanisms in place in different locales, and what types of experiences could be exchanged (as SISCOS and CANTASOL have already begun to do) in order to ensure the long-term success of community-based solidarity projects? Are there cases where community-based solidarity systems sprouted organically?

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